

XIN, HUAIBO, Dr.P.H. Assessing Individual, Family, and Community Resilience to a Natural Disaster among Vietnamese Refugees in North Carolina: An Ethnographic Study. (2011)

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Background: Previous studies have suggested that compared to the general population, refugees can be more susceptible to disaster mental disorders in the face of a public emergency occurring in their host country. Studies have also indicated that strengthening individual, family and community resilience have a significant impact on maintaining and improving the disaster victims' mental well-being. However, to date, few studies have investigated how refugees living in the U.S. respond to a public disaster happening in their host country in terms of applying the concept of resilience to individual, family, and community levels. In addition, little research has been done to identify the actual strategies for public health preparedness in improving refugee populations' resilience to a public crisis.

Objectives: The objective of this dissertation study is to address these inadequacies and examine the individual, family, and community resilience to a potential natural disaster among adult Vietnamese refugees who have been resettled in NC and represent the majority of the Southeast Asian refugees in the U.S.

Methods: This is a qualitative study using an ethnographic approach. A total of 20 Vietnamese refugees living in the city of Greensboro, NC, and aged 18 years old and above, who met both inclusion and exclusion criteria, were recruited and interviewed during the period of August 2010 to January 2011. Each face-to-face interview lasted for about an hour and a half to two hours by using a pre-tested semi-structured interview

guide with an interpreter present. Both the top-down coding and the analysis of themes were used to analyze the data.

Results: The findings were organized and written narratively by following the scheme of individual, family, and community resilience. The refugee participants' shared characteristics, in such as disaster experiences, personal traits, coping behaviors, physical and social resources, family belief systems, family communication process, family organizational patterns, community economic development, community institution and infrastructure, and community competence, across three levels of resilience to a natural disaster were qualitatively described. Factors that either support or impede the Vietnamese refugee participants' resilience to a natural disaster were identified.

Conclusions: Using the lens of individual, family, and community resilience, what public health preparedness professionals need to know about the nature of resilience of the Vietnamese refugee population in order to be adequately prepared to reach this population and reduce their vulnerabilities to disaster mental disorders in the event of a natural disaster were discussed. A multilevel approach was suggested.

ASSESSING INDIVIDUAL, FAMILY, AND COMMUNITY RESILIENCE TO  
A NATURAL DISASTER AMONG VIETNAMESE REFUGEES IN  
NORTH CAROLINA: AN ETHNOGRAPHIC STUDY

by

Huaibo Xin

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## APPROVAL PAGE

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## CHAPTER I

### DISSERTATION PROPOSAL

#### **A. Rationale, Specific Aims, and Research Questions**

##### **A1. Rationale: Refugees are Vulnerable to Mental Illness in Response to Disasters**

Previous studies have shown that vulnerability to mental illness during disaster situations is associated with prior exposure to multiple traumatic experiences, a prior history of psychiatric disorders, and a lack of utilizing early crisis interventions or other mental health services (McNally, Bryant, & Ehlers, 2003; North, et al., 1999; Shevlin et al., 2008). Refugees have been characterized as: (1) being traumatized because of their race, religion, culture, and politics (e.g. Lears & Abbott, 2005); (2) possessing a high prevalence and incidence of psychiatric symptoms (e.g. Fazel, Wheeler, & Danesh, 2005); and (3) being underserved by the mental health systems in their host countries due to impediments such as level of acculturation, ability to speak the language of the host country, socioeconomic status, and medical insurance (Hsu, Davies, & Hansen, 2004). These characteristics may increase refugees' susceptibility to mental disorders in a public catastrophe occurring in their host country, for instance the United States.

Studies looking at stress and mental health have clearly illustrated how individual resilience could enable people to thrive in a stressful or traumatic encounter and maintain their mental well-being (Campbell-Sills et al., 2006; Hjemdal et al., 2006; Littleton, 2007;

Tischler & Vostanis, 2007). In particular, coping, the cognitive and behavioral efforts, is one of the key components or predictors of resilience (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus, 1993). Both resilience and coping may be dynamic. Coping is particularly context-driven and may vary from one situation to another. Resilience and coping may interactively or independently impact an individual's stress level and mental health. Examined from a social-ecological perspective, individual resilience is hierarchically influenced by both family and community resilience. How a family collectively responds to adversity will directly impact each individual family member's adjustment and adaptation to that situation. A resilient family cultivates a resilient individual (McCubbin & Patterson, 1983; Walsh, 1996). At the community level, community resilience emphasizes the ability of a community to stick together to help itself as well as its community members and their families to reduce the vulnerabilities, overcome a crisis, and achieve health and well-being by using both internal and external strengths and resources (Ganor, 2003). Public health agencies and professionals have been strongly urged to strengthen and support human resilience for a public emergency at the community level (Keim, 2008).

To date, few studies have investigated how refugees living in the U.S. respond to a public disaster happening in their host country in terms of applying the concept of resilience to individual, family, and community levels. In addition, little research has been done to identify the actual strategies for public health preparedness in improving refugee populations' resilience to a public crisis. Responding to these inadequacies, this study will target Vietnamese refugee adults who have been resettled in the city of

Greensboro, North Carolina (NC). Vietnamese refugees represent the majority of the Southeast Asian refugees in the U.S. Greensboro has been defined as a local NC community in this study.

## A2. Specific Aims

The goal of this study is to assess the individual, family, and community resilience within Vietnamese refugees to a potential natural disaster like a severe storm, tornado, flood, hurricane, and an earthquake. Both current promoters and inhibitors that influence these refugees' individual, family, and community resilience will be identified. In addition, this study seeks to understand how to enhance resilience at the individual, family and community levels, including what disaster response teams need to know and do to effectively reach this population in the event of a disaster. Both Vietnamese refugees and refugee service providers' perceptions of how to enhance resilience to a natural disaster will be explored. Implications will be made for future public health preparedness.

Aim 1: For Vietnamese refugees resettled in Greensboro, NC, qualitatively explore the shared nature of individual, family, and community resilience to a natural disaster, including those factors that support or impede resilience. Specifically, this aim seeks to answer the following research questions: (1) For Vietnamese refugees resettled in Greensboro, NC, what is the currently shared nature of resilience at the individual, family, and community levels in the event of a natural disaster? and (2) What factors support or impede resilience of Vietnamese refugees in Greensboro at the individual, family and community levels?

Aim 2: Using the lens of individual, family and community resilience, qualitatively explore how the Vietnamese refugee population, as well as the disaster response systems can be best prepared for a natural disaster affecting this population. The refugees and their service providers' shared perspectives will be explored. Specifically, this aim seeks to answer the following research question: (1) What aspects of resilience within the Vietnamese refugee community should be strengthened to reduce the risk of mental illness as a result of a natural disaster? and (2) What do public health preparedness professionals need to know about the shared nature of resilience of the Vietnamese refugee population in order to be adequately prepared to reach this population?

## **B. Background and Significance**

### **B1. Background (A Problem Statement)**

#### **B1.1. Overview**

Over the past nearly 56 years (1953-2010) a total of 1,898 public disasters on U.S. soil have been officially declared, including natural disasters (e.g. severe storms, hurricanes, floods, tornadoes, and earthquakes) and man-made disasters (e.g. radiation and chemical emergencies, disease outbreak, and bioterrorism), with no state being able to escape (Federal Emergency Management Agency, [FEMA], 2009). Within the past 25 years, natural disasters have accounted for almost half of the disaster declarations (442 out of 902) (ScienceDaily, 2007). In North Carolina, from 1954 to 2010, 19 out of 46 declared major simple or complex disasters included hurricanes, 19 included severe storms, 10 included floods, and 5 included tornadoes (FEMA, 2010). Ranked by the

FEMA cost, 8 of 10 top natural disasters in the U.S. are hurricanes (FEMA, 2006).

Disasters have taken a tremendous toll on not only people's lives and properties but also the survivors' mental health. A considerable number of studies conducted among diverse population groups generated a well-established relationship between disasters and the prevalence and incidence of disaster-related mental disorders such as post-traumatic stress disorder (PTSD), major depression and anxiety (Galea, Nandi, & Vlahov, 2005; Jehel et al., 2003; Satcher, Friel, & Bell, 2007). The differences of the risks for having disaster psychopathy were also identified among some of the ethnic groups (Perilla, Norris, & Lavizzo, 2002). However, rarely have studies been published and specifically designed to examine the refugees' psychological responses to a public disaster occurring in their resettlement countries, the United States, for instance.

The United Nations High Commission on Refugees (UNHCR) defines refugees as individuals who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country." The United States is one of the few countries who joined the UNHCR resettlement programs and takes the major responsibility of hosting refugees from all over the world (UNHCR, 2001-2009). In 1948, the first wave of the refugees admitted to the U.S. under the legislation consisted of around 400,000 Eastern Europeans (U.S. Department of Homeland Security, 2009). The number continued to grow in the following years. Between 1983 and 2006, 2,053,984 refugees from over 20 countries were resettled throughout the U.S. (Office of Refugee

Resettlement, 2005). In the past three years (2006-2008), about 150,000 refugees from more than ten countries (e.g. Burma, Iraq, Iran, Burundi, etc.) have entered the U.S. border with 41,150 in 2006, 48,218 in 2007, and 60,108 in 2008 (U.S. Department of Homeland Security, 2009). Based on the report of the Office of Refugee Resettlement (ORR) to the Congress (2007), from 1983 to 2007, about 32% of the total refugees who resettled in the U.S. were Southeast Asians which remained the largest group of refugees. Of them, 470,709 refugees fled from Vietnam and represented the majority and the second largest refugee population in this nation. This number continues to grow.

In the document issued by the U.S. Department of Health and Human Services (2003) containing the principles and recommendations for ensuring cultural competence in the delivery of effective public disaster mental health services, U.S. refugees were particularly mentioned because of their multiple differences from the general U.S. population such as “language, culture, economic marginalization and differences, fractured social relations, experience of traumatic stressors and of loss, and family dynamics and role changes.” Refugees were also differentiated from the general U.S. population in light of the prevalence of mental disorders and the utilization of mental health services. Will these differences make the refugees more mentally traumatized than the rest of the victims so as to require additional attention during a public disaster in the U.S.?

## B1.2. Traumatic Experiences and Disaster Mental Health

### *B1.2.1. Accumulative Traumatic Experiences and Occurrence of Psychological or Mental Disorders*

Although there are some contradictory outcomes, numerous studies have found a positive association between multiple traumas and the risk of suffering PTSD, depression, anxiety and other psychological disorders among diverse populations. Shevlin et al. (2008) concluded that there was a positive dose-response relationship between the prevalence of psychosis (a combined variable of schizophrenia, delusional disorder, atypical psychosis, or etc.) and the number of types of the experienced trauma (e.g. physical assault, sexual molestation, rape, physical abuse as child, and neglect as child, etc.). The data were collected from two nationally representative, stratified, multi-stage survey samples: the National Comorbidity Survey in the U.S. and the British Psychiatric Morbidity Survey in Great Britain. The total number of participants included in the analysis was more than 14,000 individuals, ranging from 15 to 74 years old and roughly equivalent in numbers of males and females. Two instruments for diagnosis were used: the modified Composite International Diagnostic Interview and the Psychosis Screening Questionnaire. The data from these two samples were analyzed respectively. Consistent results were also found in two refugee studies. One study was conducted by Mollica, McInnes, Poole, and Tor (1991) using interviews with a random, multi-stage sample of 993 Cambodian refugee adults stationed in a Thai refugee border camp. The Harvard Trauma Questionnaire and Hopkins Symptom Checklist were applied to collect the data of the number of different types of trauma and symptoms of PTSD and depression during



both Pol Pot era and the year right before the interview. The other one was carried out by Neuner et al. (2004) among Ugandan nationals, Sudanese nationals and Sudanese refugees in the same area (northern Uganda and southern Sudan) which will be further mentioned below. The responses of 3,179 interviewees aged from 15 to 55 years old were examined. The pre-tested trauma checklist used for the interviews included 31 different types of events (e.g. poisoning, rape, robbery, threatened or injured by a weapon or gun, beating or torture, sexual slavery, etc.). The modified Posttraumatic Stress Diagnostic Scale which met the DSM-IV criteria was adopted for assessing the participants' occurrence and severity of PTSD. Not surprisingly, the increased number of traumatic events predicted the increased prevalence of PTSD. Additionally, accumulated traumatic life events can also evidently elevate the risk of PTSD or depression among adolescents such as the 209 college female sophomores living in Washington, D.C. and 922 10th grade students chosen from the schools in South Africa (Krupnick, Green, Stockton, Goodman, Corcoran, & Petty, 2004; Suliman, Mkabile, Fincham, Ahmed, Stein, & Seedat, 2009).

While an assumption also has been made that the more individuals experience similar traumatic events, the more immunized they become to a subsequent similar trauma, the evidence is still unclear and needs further investigation. Dougall et al. (2000) tried to divide the participants' previous traumatic experiences into two groups: similar and dissimilar to the current trauma (working at the USAir Flight 427 crash site). The history of multiple dissimilar traumas continuously functioned as a risk factor of an elevated onset of psychological disorders following the rescue work. However, the

history of multiple similar traumas did not serve as a protective factor although it did alleviate some of the participants' stress during the rescue. As discussed by the authors, it was hard to measure the similarities and dissimilarities of the characteristics of each trauma. The results could be easily confounded by multiple determinants.

Moreover, Breslau et al. (1999) discovered the correlation between previous traumatic experiences and the likelihood of initiating PTSD from a subsequent trauma in their study. Their sample was composed of 2,181 respondents aged from 18 to 45 years from the 1996 Detroit Area Survey of Trauma and randomly selected from 3,297 households. The traumatic events were categorized into four groups: "assaultive violence," "other injury or shocking experience," "learning about trauma by a loved one" or "the sudden unexpected death of a loved one." PTSD was evaluated by the National Institute of Mental Health Diagnostic Interview Schedule and the WHO Composite International Diagnostic Interview. The results showed that childhood (15 years or younger) exposure to the assaultive violence (e.g. rape, beating, sexual abuse, threatened by a weapon, etc.) predicted an increased susceptibility to PTSD resulting from trauma experienced in their later life.

#### *B1.2.2. Refugees and Their Prior Traumatized Life*

Almost all refugees have experienced trauma prior to their arrival in the resettlement countries, whether it happened in their home countries, in refugee camps, or during their journey of a forced migration (Lears & Abbott, 2005). The evidence has been well collected and documented among worldwide refugee populations. Multiple studies reviewed and cited by Bolton reveal that these trauma types include torture, famine, life-

threatening infectious diseases, being involved in combat, witnessing family members or friends being killed, forced isolation and feeling close to death. Their prevalence among the study groups could vary from 37% to 67% except for torture (5% to 35%) (U.S. Department of Veteran Affairs, 2002).

In a study, following the Kosovar War from 1998 to 1999, 40% of the randomly selected 1,358 Kosovar Albanian participants aged 15 years old or over surveyed in the late 1999 in Kosovo disclosed that they had gone through at least 8 traumatic events (Gardoza, Vergara, Agani, & Gotway, 2000; U.S. Department of Veteran Affairs, 2002). The similar results regarding high exposure to trauma, such as 10 to 14 different traumatic incidents per adult, were also found in other refugee studies (Mollica, Wyshak, & Lavelle, 1987; Mollica, McInnes, Poole, & Tor, 1991). Between 1999 and 2000, Karunakara et al. (2004) delivered a survey to 3,323 residents with an average age of 30.5 years old located in northern Uganda and southern Sudan by using multi-stage sampling. The participants were divided into three groups: Ugandan nationals, Sudanese nationals, and Sudanese refugees. Compared to the other two groups, the Sudanese refugees reported a higher rate of violent events (e.g. abduction, beating or torture, rapes, injury by weapons, forced isolation, and imprisonment) for both within the year prior to the survey and one year after the survey. For each person in the refugee group, the mean total number of experienced or witnessed traumatic events occurring one year before the survey is statistically significantly higher than the rest. In addition, recently, the UNHCR (IRIN, 2008) revealed the results of a study among 754 Iraqi refugees in Syria with “80 percent

had witnessed a shooting, 68 percent had undergone interrogation or harassment by militias, and 75 percent knew someone close to them who had been killed.”

### B1.3. Impact of a History of Psychiatric Disorders on Disaster Mental Health

#### *B1.3.1. Impact of a History of Psychiatric Disorders with a Subsequent Disaster on Mental Health*

Disaster could result in a recurrence of a psychiatric disorder or an increased risk of developing a new psychopathology among people with a history of psychoses.

Between 4 to 8 months after the Oklahoma City bombing, 182 immediate adult victims, with 92% of them having a distance within no more than 184 meters from the explosion scene, were randomly sampled for interview. The Diagnostic Interview Schedule/Disaster Supplement was applied for diagnosing eight pre and post disaster mental disorders, including PTSD, depression, drug use disorder and panic disorder. A history of pre-disaster psychopathology was significantly associated with a rising onset of post-disaster PTSD. Depression, in particular, tended to recur (North, et al., 1999). Similarly, Silver, et al. (2002) undertook a nationwide longitudinal internet survey with 2,729 adult respondents from both inside New York and outside New York after the 9-11, 2001 attack. The survey was administered between 9 to 23 days, 2 months, and 6 months after the attack. The results showed that a history of depression or anxiety diagnosed by a clinician was associated with an increased likelihood of suffering PTSD. Moreover, 12 to 19 days after the Hurricane Katrina, an on-site self-reported structured survey was conducted in an emergency shelter (Austin Convention Center), with 132 adult evacuees voluntarily participating in the psychiatric assessment. The distribution of gender,

ethnicity, income and previous psychiatric history (e.g. depression, anxiety, PTSD, bipolar, etc.) were well represented. The Acute Stress Disorder Scale was utilized for examining the acute stress disorder (ASD). A significant relationship between the pre-event psychopathology and the increased prevalence of ASD was indicated (Mills, Edmondson, & Park, 2007). The consistent findings were presented among the victims of the 1996 Paris subway bomb attack, 2004 Madrid bomb attack, and other studies as well (Gabriel, 2007; Jehel, Paterniti, Brunet, Duchet, & Guelfi, 2003; National Center for PTSD, n.d.).

A history of pre-catastrophe psychiatric disorders may also imply a negatively intensified impact on the levels of the severity of the symptoms of these disorders after the event. Druss and Marcus (2004) made a comparison of the usage of psychiatric medications within 12 weeks before and after September 11 in both 2000 and 2001. Two large databases were used so as to maintain the generalizability of the data: NDCHealth (a national data warehouse which had the information of over two-thirds of the U.S. prescriptions), and AdvancePCS (the nation's largest pharmaceutical benefits management company). Pre and post utilization of the medication was further compared among the nation, Washington, D.C., and New York City. Overall, approximately 156.9 million filled prescriptions of four medication classes (antidepressants, anxiolytics, antipsychotics and hypnotics) were examined. Among the existing psychotropic drug users, both nationally and in Washington, D.C., only the percentage of the antipsychotic users who increased their dosage during the 12 weeks period significantly rose from 2000 to 2001 (17.1% vs. 18.7%). On the contrary, in New York City, compared with the

percentage of the customers who increased their amount of psychotic medication use during the period in 2000, in 2001, the percentages among the antidepressants, anxiolytics, and hypnotics takers all climbed especially with the antidepressants takers' being significant (13.7% vs. 17.1%).

### *B1.3.2. U.S. Refugees and Their Mental Health Status*

Mental illness is highly prevalent among refugees not only because of their traumatized pre-immigration life but also because of the stressful adjustment to their new life in a resettlement country. Fazel, Wheeler, and Danesh (2005) systematically reviewed the preceding publications with regard to mental health status among refugees in the western countries. A total of 20 studies conducted in seven countries (U.S., Australia, Canada, Norway, UK, New Zealand, and Italy) with 6,743 refugee adults from Vietnam, Cambodia, Cuba, Haiti, Kosovo, etc., were selected and included in the analysis. The results showed the following prevalence rates; PTSD prevalence from 17 studies among 5,499 refugees was 9%; major depression prevalence from 14 studies among 3,614 refugees was 5%; anxiety prevalence from 5 studies among 1,423 refugees was 4%; and psychotic illness from 2 studies among 226 refugees was 2%. Additionally five studies about refugees aged 18 years old or younger from "Bosnia, Central America, Iran, Kurdistan, and Rwanda" hosted by the U.S., Canada, and Sweden found the prevalence of PTSD varied from 7% to 17%. Compared to the rest of the seven countries before adding all the characteristics to one random effects model, the average prevalence of PTSD and major depression among the U.S. refugees is significantly higher.

Earlier studies indicate that compared to the epidemiological data from studies with the general U.S. population, U.S. refugees are more likely to have mental disorders such as PTSD, depression, and anxiety. A mental health screening was undertaken in Austin, Texas among multi-ethnic refugee groups (e.g. Cuba, Bosnia, Kosovo, Vietnam, and Sudan). The results concluded that the refugees were at a significantly greater risk of having depression (23.8%) than the general U.S. population (5.2%) (Barnes, 2001). Another screening among newly arrived Vietnamese refugees was carried out by Buchwald et al. (1995) in 10 primary care clinics across the U.S. with the validated Vietnamese Depression Scale. Approximately 6% of 1,998 refugees with the age of 16 years or older met the criteria for depression but with 31% reporting dysphoria and 16% feeling sad and bothered. In addition, Carlson and Rosser-Hogan (1994) screened 50 randomly selected Cambodian refugees aged from 21 to 65 years old, living in Greensboro, North Carolina for 4 to 6 years. The Post-Traumatic Inventory, PTSD checklist based on DSM-III-R, Dissociative Experiences Scale, and Hopkins Checklist-25 (Cambodian version) for diagnosing depression and anxiety were employed. In summary, 86% of the respondents met the diagnosis of PTSD; 80% had a score beyond the cutoff point for depression; and 88% were scored higher than the cutoff point for anxiety. Likewise, 490 Cambodian refugees ranged from 35 to 75 years old, resettled in Long Beach, California before 1993 were randomly sampled through three stages and participated in a cross-sectional study. In this study, the validated instruments for examining participants' trauma experiences prior to their departure and in the U.S. were a compiled version of the Cambodian and Bosnian Harvard Trauma Questionnaire and the

Survey of Exposure to Community Violence. The Composite International Diagnostic Interview was chosen for investigating PTSD and depression. The results showed that 62% and 51% of the participants were diagnosed with PTSD and depression respectively within one year before the study. The prevalence of PTSD and depression among the participants can be attributed to the trauma prior to their arrivals at the destination (Marshall, Schell, Elliott, Berthold, & Chun, 2005).

The elevated prevalence of the pre-disaster psychopathology among the U.S. refugees indicates that they may be at a greater risk of suffering a recurrence of a prior psychiatric disorder, developing a new disorder, or worsening their current symptoms than other groups after experiencing a new public catastrophe.

#### B1.4. Early Intervention and Disaster Mental Health

##### *B1.4.1. Early Interventions for Preventing Disaster Mental Illness*

The Center for Disease Control and Prevention (CDC) (2003) recommends providing victims of disasters with psychological “first aid” during the first 4 weeks of a public emergency. Psychological debriefing has been widely adopted in the crisis mental health services while its effectiveness is still under debate. It is delivered in groups or to individuals urgently in the aftermath of a disaster. McNally and his colleagues (2003) thoroughly scrutinized the previous research on the efficacy or effectiveness of debriefing and critically presented an overview of the field. A significant number of studies support that debriefing has the functions of alleviating the victims’ acute stress after a disaster, mitigating or reducing their symptoms of PTSD, and preventing the onset of PTSD. However, others urge great caution for its future application. For instance, after the



McNally et al. study, researchers continued examining its scientific value but the findings remain conflicting (e.g. Addis & Stephens, 2008; Devilly, Gist, & Cotton, 2006; Devilly & Annab, 2006; Taylor & Benelle, 2008). While it may be arbitrary to totally deny its utilization, more attention should be paid by both health professionals and policymakers to how to deliver a standardized and appropriate “debriefing.”

The Cognitive Behavioral Therapy (CBT) is becoming another prevailing type of early intervention for preventing disaster-related psychopathology. Although it doesn’t attempt to be an “emotional first aid,” it is “an empirically supported treatment that focuses on patterns of thinking that are maladaptive and the beliefs that underlie such thinking” (McNally, Bryant, & Ehlers, 2003, p. 45). The CBT has been applied to and shows beneficial for not only PTSD but also depression, anxiety and schizophrenia (McNally, Bryant, & Ehlers, 2003; National Alliance on Mental Illness, 2003). Its encouraging treatment effects have been gradually recognized. The CBT is usually composed of multiple sessions and scheduled for weeks or months after a trauma. Favorable outcomes were shown from studies including randomized controlled trials undertaken at different stages (within 1 month or 1 to 3 months after a disaster) across cultural groups in different countries. Participants who received CBT had an evident deduction of either the symptoms or the incidence of PTSD. It is especially valid for the participants with acute stress disorder (McNally, Bryant, & Ehlers, 2003).

#### *B1.4.2. Impediments among Refugees for Utilizing the U.S. Mental Health Services*

The fact that refugees are underserved within the U.S. mental health system has been historically recognized. This problematic issue results from not only the quality and

quantity of the delivery of mental health services but also the refugees' help-seeking behaviors for the services. Both of them interactively and ultimately determine the refugees' utilization of the U.S. mental health services. Gong-Guy and her colleagues (1991) comprehensively analyzed and presented the existing impediments that could delay the delivery of the effective mental health services to refugees. In particular, they pointed out the shortage of linguistically and culturally competent services. For instance, the number of "bilingual and bicultural" mental health practitioners was very limited, especially for hospitalized patients. Interpreters who were professionally trained for mental health services were extremely limited. Consequently, the refugee clients had to turn for help to paraprofessionals, who might also be refugees. Under these circumstances, the paraprofessionals usually had to take multiple responsibilities (e.g. interpreter, caseworker, counselor, etc.). Moreover, refugees might be accustomed to explaining their symptoms by complaining about their daily trivia, which might actually bother and stress them more. However, because of the insufficient knowledge of the clients' cultural expression of their illness, practitioners might not be able to identify the underlying symptoms of these trivia and could misdiagnose them and ignore their further treatment. On the other hand, from the refugees' perspective, Gong-Guy et al. also mentioned the refugees' critical deficiency of mental health knowledge. As Lears and Abbott (2005) discussed in their article, "Psychologist" and "Psychiatrist" do not appear in some cultures' dictionary. Refugees may deem that only people with severe mental illness need to seek help. Most of them were not familiar with psychological therapy either, and were not able to understand that therapy was not a one-time treatment. For this reason, they

terminated the services after the initial contact. In the end, Gong-Guy et al. (1991) concluded and emphasized that their concerns about the delivery of the mental health services to refugees remain for the future because of more diverse upcoming refugee groups entering the U.S.

Likewise, Hsu, Davies, and Hansen (2004) “historically, culturally, and contextually” (p. 193) examined the barriers for utilizing the mental health care among U.S. Southeast Asian refugees (Hmong, Vietnamese, Laotian and Cambodian), the largest subgroup of the U.S. refugees. Besides common factors including concern for stigma, language deficiency, and misunderstanding of cultural expression of the symptoms, noncompliance to psychiatric medications was also a prominent issue among this refugee subgroup. The refugee patients might not accept the side-effects of the medications or might not consider that the treatment had to be a series of appointments. Because of this, they might stop taking the medications as they wished. More recently, Wong et al. (2006) conducted interviews among 490 randomly selected Cambodian refugees living in Long Beach, California, who were mentioned in the previous paragraph. The questions on the self-reported instrument for evaluating treatment barriers were divided into two parts: cultural barriers: “stigma, family reluctance to seek outside help, belief that alternative Asian treatment is better, anticipated discrimination, and lack of credibility of Western treatment;” and structural barriers: “cost, transportation, insufficient knowledge on where to obtain services, and language incompatibility (p. 1116).” The results demonstrated that cost for the services was ranked as the primary concern of the participants (80%). In sequence, the other identified concerns were

language issues (66%), lack of navigation to mental health services (25%), transportation (24%), anticipated discrimination (5%), etc.

In recognition of these impediments, it is reasonable to expect that refugees will be more likely than other survivors to avoid utilizing disaster mental health services, such as the early interventions or the follow-up formal psychiatric treatment. If this is the case, concerns that remain for this population group will be their progressively worsened mental health well-being and long-lasting adverse consequences brought to their individual lives, their families, and even the whole society.

#### B1.5. U.S Refugees Need Additional Attention to Their Risk for Mental Illness after a Public Disaster

Lears and Abbott (2005) suggested that resettled refugees are “the most vulnerable among us” (p. 22) in terms of their mental health needs due to the trauma experienced in their country of origin, the history of PTSD, resettlement stress, dissimilar perceptions of Western mental health care, etc. Moreover, the CDC (2003) has further stated several risk factors that during a public catastrophe could predict and increase the survivors’ susceptibility to mental disorders as well as the severity of disaster-related psychological consequences in their later life. Culture, language skills, history of trauma or psychopathology and accumulative stressors were suggested. By virtue of the refugee population’s nature, they unavoidably possess multiple risks of disaster psychopathology: pre-immigration single or multiple traumas, a psychiatric history, and a shortage of both primary and advanced mental health care. These contributors may act together,

magnifying the impact of a public emergency on the refugees' already jeopardized mental health, and making them more traumatized than other victims during or after the event.

Refugee survivors need additional attention to their disaster mental health support. Creating more culturally competent and affordable mental health care for U.S. refugees in the aftermath of a disaster is certainly necessary. Enhancing appropriate mental health outreach or advocacy programs for this population should also be addressed. It may eventually increase the refugees' awareness of the availability of the tailored disaster mental health services, and motivate them to access the services during a catastrophic situation. Moreover, improving the refugees' resilience to a public disaster, as well as preparing and strengthening their coping skills with a disaster in their host country, are imperative. Some specific positive coping skills with a public disaster have been shown to prominently improve the survivors' psychological outcomes (Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002). In addition, the supports within families and communities need to be strengthened to reduce vulnerability and enhance resilience for this population. However, this will rely on a collaborative endeavor of both emergency preparedness and mental health professionals.

## B2. Significance

### B2.1. Individual Resilience

#### *B2.1.1. Concept of Resilience*

Within the past two centuries, the construct of resilience has developed, being influenced from two academic domains: physiological stress and psychological coping (Tusaie & Dyer, 2004). The evolution of the resilience theory has lasted for over seven

decades, has had multidisciplinary involvement, and has been revived in the last 20-30 years (Vanbreda, 2001). Researchers have diverted their efforts from simply diminishing the sequela of adversities to enhancing individual, family, and community's capacity of overcoming the difficulties, so as to build up their resilience (Vanbreda). While the literature defines resilience in various ways, the essential component embodied in these definitions is that it represents the synthesized and sustained competence (e.g. skills, knowledge, insights, emotions, etc.) of dealing with stress that results from life-time stressful events, public catastrophes and other misfortunes (as cited in Vanbreda, 2001; Agaibi & Wilson, 2005; Connor & Davidson, 2003; Connor, 2006). It also means "the phenomenon that some individuals have a relatively good outcome despite suffering risk experiences that would be expected to bring about serious sequelae" (Rutter, 2007, p.205). Individual resilience represents a "personal quality" (Connor & Davidson, 2003, p. 76; Connor, 2006, p.46). It is classified by four patterns: (1) dispositional pattern which associates with "physical and ego-related psychological attributes that promotes resilience"; (2) relational pattern which "concerns an individual's roles in society and his/her relationships with others"; (3) situational pattern which "addresses those aspects involving a linking between an individual and a stressful situation"; and (4) philosophical pattern which "refers to an individual's worldview or life paradigm" (Polk, 1997, p. 1; as cited in Vanbreda, 2001). Resilience does not purely refer to personality traits. It also could be broadly understood as "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances" (Masten, et al. 1988, p.745; as cited in Wolff, 1995, p.565). In the face of hardships, a resilient person is characterized

and manages the situation with internal locus of control, optimism, sense of humor, self-efficacy, self-satisfaction, persistence, self-motivated, positive response, dependence of social network, etc. (Kobasa, 1979; Rutter, 1985; Wolf, 1995; as cited in Connor, 2006).

#### *B2.1.2. Dynamic and Interactive Determinants of Resilience*

Resilience is not static. Resilience is fostered by dynamic and multidimensional factors in a developmental process (Wolff, 1995; Braverman, 2001, Edward & Warelow, 2005; as cited in Yates, 2006). It is determined by the interactions and transactions between biological and psychological impacts as well as between individual and environment (as cited in Yates, 2006). (1) Biological factor: Multiple neurochemical, neuropeptide and hormone mediators (e.g. cortisol, CHR, locus coeruleus-norepinephrine system, neuropeptide Y, dopamine, etc.) which influence a person's psychological responses and explain the mechanism of reward and motivation, fear conditioning and social adaptive behavior, were identified to be most likely relevant to resilience (Charney, 2004). Genetic research also suggested the role genes play in resilience and vulnerability to psychopathy (Ahmed, 2007). Curtis and Cicchetti (2003) proposed both theoretical and methodological considerations and highlighted the necessity of integrating the biological factors into the development of resilience in the 21<sup>st</sup> century's research. (2) Demographic factor: In a current study conducted 6 months after the 9-11 terrorist attack, 2,752 randomly selected adults were interviewed. Results showed that the demographic indexes containing age, gender, ethnicity, and education were the significant predictors of resilience (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). Likewise, modestly significant associations between age and resilience were also found by Gillespie et al. (2009). And

the negative impact of family socioeconomic status on children's adaptation or resilience ability in their later life was illustrated by other studies (e.g. Garmezy, 1991; Egeland, Carlson, & Sroufe, 1993).

(3) **Personality factor:** Personality is an important variable in examining resilience. Agaibi and Wilson (2005) have added personality characteristics into the model of resilience in response to psychological trauma as one of the few key determinants for evaluating the level of resilience. The demonstration of positive or negative relationships between personal traits such as extraversion, conscientiousness, neuroticism optimism, self-esteem, self-efficacy, and hardiness, and resilience were revealed among different ethnic groups (Bonanno, 2004; Campbell-Sills, Cohan & Stein, 2006; Lee, Brown, Mitchell, & Schiraldi, 2008; Rutter, 1987).

(4) **Cultural factor:** Clauss-Ehlers (2008) recently indicated a quantified contribution of culture to resilience among 305 multi-racial female college students from a large northeastern university. The Cultural Resilience Measure was applied to assess the degree to which resilience can be influenced by cultural indicators and interpret how individual negotiation attitudes and behaviors with stressors can be differentiated by an ethnic background, cultural values and socialcultural environmental factors. In addition, religion or cultural belief systems also accounted for the growth of resilience (Lee, Brown, Mitchell, & Schiraldi, 2008).

(5) **Coping factor:** The correlation between coping styles and resilience has been established by plentiful studies. In the presence of stressors, positive coping, such as active problem-solving may predict a higher level of resilience and less psychological impairments than negative coping. Coping is on a continuum from the minimal to the optimal (Agaibi & Wilson, 2005). Increasing coping skills has been recognized and adopted in the potential



interventions for promoting resilience and resistance to crisis mental disorders (Nucifora, Langlieb, Siegal, Everly, & Kaminsky, 2007). Coping will be further explored in the following sessions. (6) Resource factor: The availability of resources may have a direct or indirect association with resilience. Bonanno et al. (2007) examined the availability of four types of resources based on the Conservation of Resources theory: material resources (e.g. income), energy resources (e.g. health insurance), interpersonal resources (e.g. social support), and work resources (e.g. employment). Both variables of income loss and social support loss implicate a statistically significant connection to low resilience. Social support is extraordinarily crucial for enhancing resilience. In the neurobiological perspective, a good utilization of social support networks may strengthen a person's resilience to stress through regulating the nervous and neuroendocrine system, and buffering the effects of genetic and environmental vulnerabilities (Ozbay et al., 2007; Ozbay, Fitterling, Charney, & Southwick, 2008). And (7) Stressful life events factor: By using the presence and absence of PTSD symptoms as a measurement of resilience, the increased number of previous life stressors or traumatic stressors may imply a decreased level of resilience (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). This is consistent with the conclusion obtained by abundant studies that multiple traumatic or stressful experiences may induce a high incidence of PTSD. However, constantly working in the same stressful environment such as nurses in an operating room and encountering similar stressful events may instead improve an individual's learned coping strategies resulting in boosted situational resilience (Gillespie, Chaboyer, & Wallis, 2007).

### *B2.1.3. Coping*

#### B2.1.3.1 Definition and Determinants of Coping

Coping has been defined as, “a person’s ongoing cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the internal and external demands of person-environment transaction that is appraised as taxing or exceeding the persons’ resources,” (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 571; Lazarus, 1993, p. 234). It functions in two main dimensions: dealing with stressors, and regulating emotion in a process (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus, 1993). Individuals’ coping strategies can be considerably differed from each other by personal characteristics and contextual determinants. Aldwin (n.d.) concluded that culture may shape a person’s coping styles in several aspects: 1) It may influence the appraisal of a given stressful situation, 2) It may affect an individual’s choice of coping techniques with a specified stressor, and 3) It may frame an individual’s coping within particular institutional mechanisms. Fleshman (1984) studied the relationship between personality traits (e.g. mastery, self-esteem, self-denial, and nondisclosure of problems) and coping patterns among 2, 299 randomly selected adults. Results stated self-denial and nondisclosure of problems affect the use of emotional-focused coping and advice-seeking behavior respectively. Both effects of mastery and self-esteem on coping seem insignificant. Additionally, demographic indicators such as age and gender may also cause the differences of coping. In an adolescent study, older adolescents were more likely to use self-blame and tension reduction strategies. Male adolescents tended to use more physical recreation, while females tended to depend on acquiring social support, wishful thinking,

and tension reduction (Frydenberg & Lewis, 1993). Holahan and Moos (1987) had a multifaceted examination in the determinants of coping. Sociodemographic factor, personality dispositions, prior negative life events and family support were all included. A community control sample and a depressed patient sample with 424 individuals for each were recruited. The community sample presented the significant positive relations between active-cognitive coping and family support, self-confidence, or stressful life events, as well as between active-behavioral coping, and education level, self-confidence, family support, or stressful life events. The patient sample displayed the positive relations between active-cognitive coping and self-confidence, an easy-going personality, family support, or stressful life events, as well as between active-behavioral coping, and personal and environmental resources. An increased number of negative life experiences implied an increased usage of avoidance coping techniques.

#### B2.1.3.2. Situational Coping

In shifting away from general coping to situation-specific coping, researchers have found that the choice of coping techniques could vary across situations. An individual's general coping ability may not be able to predict his or her coping behaviors in a given particular stressful circumstance (Lazarus & DeLongis, 1983; DeLongis & Holtzman, 2005).

Folkman and Lazarus (1980) in their study, proposed several questions: How was coping consistent across different situations? Would coping be influenced by the type of stressors, by the responders themselves who would be involved, or by the appraisal of a stressor? A total of 100 middle-aged community participants responded to the interviews.

The Ways of Coping Checklist measured the coping fit in a given stressful episode. Only a very small proportion of participants maintain consistent coping patterns. Compared to the context and appraisal of a situation, the individual who was involved in an episode had the least impact on coping capacity. The context of a stressor (e.g. health-related, work-related, family-related and others) evidently distinguished the responders' choice of coping efforts (e.g. problem-focused or emotion-focused). With a stressful episode, which the respondents perceived something constructive could be done with, or more information would be needed for, the choice of problem-focused coping behaviors was presented. If the respondents perceived that nothing they did could change the situation, emotion-focused coping was predominant. Carver, Scheier and Weintraub (1989) conducted a study to determine besides measuring dispositional coping, whether the COPE (COPE) inventory was also appropriate for situational coping. In total, 156 students were asked to identify the most stressful event within their past 2 months and completed the questionnaire. Participants who reported that the event was subject to change adopted more active coping skills, planning, suppression of competing activities, and seeking social support than other events out of their control. Two sets of data obtained from the same example spoke that most of the common dimensions in the COPE scale for measuring dispositional coping, and the correspondingly revised COPE scale for measuring situational coping, had a low to moderate level of correlation. Three common dimensions including restraint coping, suppression of competing activities, and seeking social support for instrumental reasons were not associated. The strongest association was shown by the dimension of religion between the two scales. The third example for this

session was the study undertaken by Mattlin et al. (1990) with 1,556 nonblack married subjects. Eight coping types were evaluated: avoidance, positive reappraisal, religion, active cognitive, active behavioral, social support, passive, and versatile. The type of stressors significantly influences the type of coping responses. Some of the findings from other studies are further confirmed in this study. For instance, practical stressful situations are not likely associated with avoidance coping which is more often applied to handling chronic illness, it is more inclined to using active coping which is rarely correlated to death of a loved one. Social support is more often used in a situation related to illness than other situations.

Recently, Ouwehand et al. (2006) created three stressful vignettes, which were health-, social relationships- or finance-related, in order to investigate the correlations between active coping, planning, suppression of competing activities, and acquiring social support for instrumental reasons and the three specified stressors. The sample was composed of 123 subjects aged over 50 years old. Results significantly indicated that the participants were more likely to use active coping and seek social support in the health-declined situation than the financial stressor, while in the financial stressful situation, subjects more tended to plan and apply suppression of competing activities. Stress from the social relationships did not result in suppression of competing activities. More currently, similar results were revealed by a refugee study with 90 Somali refugees in Ottawa, Canada. Not only the type of trauma, but also the number of trauma evidently predicted the type of coping. For instance, an increased number of traumatic events predicted a pronounced likelihood of using emotional and avoidant coping strategies.

Assaulted by a familiar other or a stranger was related to emotional coping, while only familiar assault was correlated to a low level of problem-focused coping (Matheson, Jorden, & Anisman, 2008).

#### *B2.1.4. Resilience and Coping*

Coping with other protective and vulnerability factors has made a prominent contribution to the development of resilience, which predicts whether an individual will conquer difficulties and thrive in the wake of adversities. In terms of importance, coping has been recognized to be equated to resilience (Smith & Carlson, 1997). In the Campbell-Sills, Cohan and Stein's study described in the previous session, with the personality factors entered into the equation, both task-oriented and emotion-oriented coping styles measured by the Coping Inventory for Stressful Situations significantly predict the level of the participants' resilience measured by the CD-RISC. On the other hand, resilience influenced the psychiatric symptoms either directly or through moderating the traumatic stress (2006). Garity (1997) investigated the stress, learning style, coping and resilience among 76 Alzheimer family caregivers. The measurements containing the Burden Interview, Resilience Scale, Ways of Coping Checklist, etc. were used. From moderately to strongly, resilience was positively correlated with distancing, planful problem-solving, and overall problem-focused coping responses among the more resilient participants. Escape-avoidance coping was moderately and negatively correlated to resilience among the less resilient participants. Another study surveyed 145 diabetic patients by asking them to complete both the COPE and Coping Styles Questionnaires. Unsurprisingly, all maladaptive coping skills were highly connected to resilience.

Adaptive coping including acceptance, emotional support and pragmatism was positively related to resilience (Yi-Frazier, et al., 2009, in press).

Moreover, both quantitative and qualitative data provide the valuable implications for researching in resilience and coping among refugee groups. Riolli, Savicki and Cepani (2002) examined optimism, personality and coping in the wake of the 1999 Kosovo Crisis among three populations: Kosovar refugees who fled to Albania, Albanians who helped Kosovar refugees and Albanian immigrants in the U. S. The Brief symptom inventory for psychological adjustment and scales for stressful events, optimism-pessimism, personality and coping were applied to the participants. Resilience was defined by using psychological adjustment score and the number of self-reported stressful events. Results illustrated that overall, resilience was positively and significantly associated with the combination of control coping like problem-focused coping techniques, optimism, extraversion, conscientiousness, and so on. Schweitzer et al. (2007) interviewed 13 Sudanese adult refugees resettled in Australia through using qualitative methodology. The participants were asked to describe their experienced and ongoing stressors and corresponding coping resources and strategies. The self-reported narrative data generated several major themes including family and social support, religious beliefs and positive personal attitudes towards difficulties, which enhanced the participants' strengths and enabled them to be adapted to and survive the adversities. Similarly, Sossou et al. (2008) conducted face-to-face interviews with 7 Bosnian refugee women residing in the southern U. S. by using a phenomenological qualitative approach. The subjects were encouraged to report their general health status prior to their arrival, stressors of living in

the U.S., spiritual and religious aspect, etc. Two identified key coping behaviors related to the participants' resilience that helped the participants keep going forward and succeeded in their challenges, are fighting and being strong for the family's sake, and seeking non-organized spiritual support.

#### *B2.1.5. Resilience, Stress, and Mental Health*

A sizable body of studies has reported that resilience is a predictor of mental health in the wake of stress. Resilience can moderate the negative impact of stressors on the occurrence of psychiatric impairments.

First, evidence was found among children and adolescents. In one study, 387 adolescents at 6 junior schools in Norway were recruited. The Resilience Scale for Adolescents, Resilience Scale for Parents, Stressful Life Events, Social Phobia Anxiety Index for Children, and the Short Mood and Feeling Questionnaire were administered. Although this study was not able to reveal an interactive effect between the stressful life events and resilience, the positive predictive relation between resilience measured by the Resilience Scale for Adolescents, and depressive symptoms was statistically significant (Hjemdal, Aune, Reinfjell, Stiles, & Friborg, 2007). Another study used a convenient sample consisting of 787 secondary school students in Africa. The Child PTSD Checklist, Child Exposure to Community Violence, Childhood Trauma Questionnaire, Perceived Stress Scale, and the Connor-Davidson Resilience Scale (CD-RISC) were adopted for the interviews. High levels of resilience indicated significantly low levels of PTSD symptoms. Resilience also played a moderating role between childhood abuse and PTSD



symptoms. Increased levels of resilience mitigated the impact of childhood abuse on the incidence of PTSD (Fincham, Altes, Stein, & Seedal, 2009).

Second, the association was also verified by the following studies with adults. Campbell-Sills et al. (2006) undertook a study with 132 undergraduates from San Diego State University. The set of questionnaires included the CD-RISC, Childhood Trauma Questionnaire, Brief symptom Inventory for psychological distress related to anxiety and depression, etc. Data collected from this study concluded that besides the significant immediate contribution of resilience to the prediction of the psychiatric symptoms, the effect of the childhood maltreatment or emotional neglect on the symptoms was buffered by the resilience. Hjemdal et al. (2006) carried out a prospective study with 159 college students in Norway. The measurements, including the Hopkins Symptom Checklist, Stressful Life Events, and the Resilience Scale for Adults, were used twice with 3 months in between for collecting baseline and follow-up data. As hypothesized, baseline resilience positively predicts the incidence of psychiatric symptoms for both anxiety and depression. Moreover, qualitative data obtained from 29 patients with mental disorders also demonstrate how promoted resilience reduces the severity of their symptoms. Participants reported the usage of non-pharmaceutical personal medicines, such as managing moods, thoughts, and behaviors. This form of medication heightened the participants' resilience level through finding life meaning and purpose, and raising the self-esteem, which effectively helped them avoid hospitalization and improved their health outcomes (Deegan, 2005).

#### *B2.1.6. Coping, Stress and Mental Health*

Numerous studies have raised consolidated evidence of a relationship between coping and depression, anxiety, PTSD, and other kinds of psychiatric disorders. Littleton (2007) performed a meta-analysis of 44 published and unpublished studies between 1983 and 2006 with a total of 6,747 subjects. Except one study having a mean age of 9 years old, the average age of the participants in the other studies were at least 19 years old. The stressful or traumatic events varied from sexual assault, sexual abuse, domestic violence, robbery, physical assault, to severe injury to the brain. Twenty-nine types of coping measured by more than 10 different coping instruments were examined and categorized. Results showed a statistically significant association between: overall avoidance coping and distress, problem/behavioral approach coping, and distress. Avoidance coping consistently proved maladaptive to stress. Whether coping moderated the impact of a stressor or had an independent effect on mental health were also explored by researchers. Andrews et al. (1978) failed in establishing a moderating role of coping. However, among recent studies, Higgins and Endler (1995) revealed the interactive effect between coping strategies such as emotion-oriented coping and distraction coping, and stressful life events among the 205 undergraduates with a completion of the Coping Inventory for Stressful Situations. Edlynn and her colleagues (2008) using the Children's Integrated Stress and Coping Skills also found avoidance coping strongly interacts with witnessing or victimization of community violence, and implicated a protective function of avoidance coping in developing anxiety symptoms among the 240 sixth-grade adolescents.

Among the participants with special conditions, coping is consistently acting as a predictor of psychiatric impairments. Among a sample of homeless mothers, problem-oriented coping such as seeking social support was associated with depression, anxiety, and insomnia (Tischler & Vostanis, 2007). A sample of elderly veterans with acquired lower limb amputation illustrated the negative association between problem-solving coping and the occurrence of depression and anxiety symptoms, and strong positive association between avoidance coping and psychological disorders (Desmond & MacLachlan, 2006). Positive religious coping which regarded God as a helper is evidently helpful for reducing the severity of psychiatric illness among the medically ill hospitalized elders. On the contrary, the elders who thought of God as a punisher increased the severity of depression (Koenig, Pargament, & Nielsen, 1998). In an advanced cancer patient sample, coping techniques including both cognitive and behavioral escape-avoidance positively correlated with psychological impairments while distance coping behaviors was negatively correlated (Zabalequi, 1999). The sampled heart transplant candidates also presented evidence of the contribution of the maladaptive coping skills such as denial and behavioral disengagement to depression (Burker, et al., 2005).

In addition, data gathered among studies carried out in Israel demonstrated analogous results to other studies, which caught researchers' attention. Israel has frequently experienced war-related catastrophes and become a traumatized nation for years. Solomon et al. (1988) conducted a prospective study with soldiers back from the 1982 Lebanon War. The Ways of Coping Checklist was completed by the soldiers. The

rates of PTSD between 1 year and 2 years after the War were compared. Both problem-oriented and emotion-oriented coping significantly predicted the second year's PTSD incidence. Different types of coping skills (e.g. emotion-oriented, distancing and help-seeking coping) and negative life stressors during year 2 have a significantly interactive contribution on year 2's PTSD incidence. Bleich et al. (2003) examined the impact of the ongoing terrorist attacks since 2000 in Israel on victims' mental health. A nationally representative sample consisting of 512 Israeli adults was researched. The most frequently applied coping responses after an attack among the victims were searching for the information about their families, and seeking instrumental and emotional social support. Avoiding TV and radio and faith in God were correlated with trauma stress-related psychological symptoms. Solomon, Berger, and Ginzburg (2007) studied the body handlers' coping skills in those terrorist attacks. Repressive coping style which was characterized by low anxiety and high defensiveness was linked to PTSD symptoms and perceived danger.

## B2.2. Family Resilience

Walsh (1996) defines family resilience as a type of relational resilience, which “seeks to identify and foster key processes that enable families to cope more effectively and emerge harder from crises or persistent stresses, whether from within or from outside the family” (p. 262). Instead of simply focusing on each individual family member's characteristics, family resilience is built and strengthened as a functional unit, but as a result, a resilient family cultivates and regulates the development of its individual family members' resilience. The family's responses or behaviors towards a crisis

determine both its and its members' adjustment and adaption in an immediate and long-term manner (McCubbin & Patterson, 1983; Walsh, 1996). Every family can be recognized as an adaptive system for each of its members. Each family member is protected before, during, and after a disaster by its well-established family functions (Masten & Shaffer, 2006; Masten & Obradović, 2008). Simon, Murphy, and Smith (2005) concluded from their literature review that family resilience is a multidimensional concept, and it is involved in at least three major dimensions: (1) the duration of an adverse situation countered by a family; (2) the life stage that a family is in while they are being challenged by a crisis; and (3) the internal and external resources that a family can utilize to cope with a crisis. The Family Adjustment and Adaptation Response model introduces two phases of how a family responds to a stressor: the adjustment phase and the adaptation phase, as well as three constructs: family demands, family meanings, and family capabilities. Family demands consist of stressors, ongoing family strains, and daily hassles; family meanings consist of a family's first and second appraisals of their demands and capabilities, perceptions of a family identity, and a family's world view; family capabilities consist of tangible and intangible supports which impact a family's coping strategies and behaviors. These three constructs are acting interactively and lead a family from an adjustment level to an adaptation level in order to achieve an ultimate family balance (Patterson, 1988, 1993; Patterson & Garwick, 1994; Patterson, 2002). A resilient or a healthy family can fall into three typologies: a balanced family with the strongest viability, a rhythmic family with most highly structured family times and

routines for specific family activities, and a regenerative family with the most family cohesion (H. I. McCubbin & M. A. McCubbin, 1988).

Walsh (2002, 2003) presents a family resilience framework serving as a conceptual map for designing prevention and intervention of increasing family resistance to and recovery from a disaster. It also explains the variables attributed to an individual family member's resilience. It draws upon the merits of the findings of a number of preceding studies and is built upon a solid and evidence-based ground. Three domains are captured and identified as the key processes in family resilience building: family belief systems; family organizational patterns; and family communication processes. Family belief systems shared by all family members to shape the family resilience through bringing meanings of a crisis situation to the members, encouraging them to maintain a positive and optimistic view of the situation, and providing them with religious or spiritual support. Family organizational patterns foster family resilience by the means of "flexible structure, shared leadership, mutual support, and team-work in facing life challenges" (Walsh, 2002, p. 132). Family communication processes facilitate the growth of family resilience through clarifying "ambiguous situations", encouraging "open emotional expression and empathetic response", and supporting "collaborative problem solving" (Walsh, 2002, p. 133). Two projects were developed for Bosnian and Kosovar refugees in Chicago to facilitate their trauma-related healing process by applying this family-oriented resilience framework in 1998 and 1999 (Walsh). Both of them were accomplished effectively. The findings demonstrated that the refugee participants were in more favor of the family approach than traditional mental health services. Therefore, a

follow-up educational and training collaborative framed by using the family resilience approach was directly delivered to the Kosovar mental health professionals and paraprofessionals in Kosovo, who were working with their clients in war zones. Positive feedback was received (Walsh).

### B2.3. Community Resilience

In the past, community resilience was not seriously considered by either public emergency planning or disaster response (Coles & Buckle, 2004). As Keim (2008) discussed the adaptive role played by public preparedness and response to extreme climate changes, he stressed that public health agencies and professionals should apply themselves to fostering and boosting human resilience to public disasters, particularly at the community level. Increased community resilience reduces a community's vulnerability to a crisis. Ganor (2003) defined that community resilience is "the ability of individuals and communities to deal with a state of continuous, long term stress which causes gaps between environmental stimuli and their functional coping behavior"; "the ability to find unknown inner strengths and resources in order to cope effectively"; and "the ability of a community to stick together and to help itself as group as well as families and individuals in its midst" (p. 106). Kimhi (2004) emphasized that community resilience also was related to each community member's individual perspectives on whether the community would successfully survive a crisis under the contemporary political climate. More recently, Cutter et al. (2008) defined community resilience as "the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with an event, as

well as post-event, adaptive processes that facilitate the ability of the social system to re-organize, change, and learn in response to a threat” (p. 599). Schoch-Spana (2008) argued that as the notion of community resilience was introduced to health catastrophes, the general public has no longer been seen only as disaster victims. They also were the well-prepared responders and resilient survivors in disaster management. Kimhi and Shamai (2004) researched the relationship between perceived community resilience and impact of stress related to Israel’s withdrawal from Lebanon. A total of 741 adults were recruited by the study and divided into four groups based on the received threat levels that resulted from the political conflicts. The results indicated that participants’ perceived community resilience, which was regarded as their own coping resources, was positively associated to the ability of each of these individuals’ reactions to a threat. They highly advocated the needs for developing community-based resilience programs in order to benefit community members.

Cutter, et al. (2008) identified six different types of resilience under the umbrella of community resilience, as well as their corresponding indicators. For instance, the resilience of an ecological system included both natural and man-made physical environments; social resilience included social networks, demographics, community cohesion, and faith-based organizations; economic resilience included employment and wealth generation; institutional resilience included emergency services and emergency migration and response plans; infrastructure resilience included lifelines, household stock, and transportation networks; community competence resilience included community understanding of risk factors and community health and wellness. Additionally, Norris



and Stevens' article (2007) also mentioned that previous research concluded that community resilience was founded by "four primary sets of adaptive capacities: economic development, social capital, information and communication, and community competence" (p. 321). These four sets of capacities can be fostered by increasing access and availability of resources, expanding social networks and enhancing social support, providing reliable and consistent information resources, developing collective decision-making skills, etc. (Norris & Stevens, 2007). The United Nations (2008) published a discussion paper entitled *Building Community Resilience to Natural Disasters through Partnership: Sharing Experience and Expertise in the Region*. It further emphasized that building community resilience must depend on an active multidisciplinary collaboration between governmental and non-governmental organizations at local, state, and national levels. As an example, Colten, Kates, and Laska (2008) presented an ongoing program named "Community and Regional Resilience Initiative," which was funded by the Congress, to integrate the notion of community resilience into the phases of emergency preparedness, response, and recovery. The program was built by the joint effort of Mississippi, South Carolina, and Tennessee to develop tools and processes that can be applied to structuring and cultivating community resilience.

### **C. Theoretical Underpinning and Conceptual Model**

#### **C1. Theoretical Underpinning**

In 2000, five academic partners including Harvard University, Columbia University, Solomon Asch Center, Queen Margaret University College, and the University of Oxford established a Psychosocial Working Group (PWG) and proposed a

framework for psychological interventions in complex emergencies. In the framework, instead of using the narrower terms such as individual mental health, they introduced the terminology of psychosocial well-being. They stated that psychosocial well-being was used to emphasize the close connection between the psychological aspects of our experience, including our thoughts, emotions, and behaviors, and our wider social experience, including our relationships, culture, and traditions. These two areas were closely connected in the context of complex emergencies such as wars and natural disasters (PWG, 2002). Rather than focusing on each individual, they directed their attention to a broader scope of efforts, which included families, communities, and other units and resources under the big umbrella of environment (e.g. economic resources, physical resources, political resources, and environmental resources) (PWG). They demonstrated that individual psychological well-being can be impacted by human capacity, social ecology, and culture and value. Human capacity referred to the physical and mental health of a person, as well as his/her knowledge and skills; social ecology referred to the interpersonal connections and social support that people shared with their peers, coworkers, families, and neighbors, and composed an important part of the psychosocial well-being; culture and values referred to the specific context and culture of a community, which affected how people living in that community experience, understand, and respond to the events that they encounter. These three major aspects were influenced by the larger social ecological environment (PWG).

The social-ecological model of health behavior represents multilevel approach. It is composed of five levels: (1) the intrapersonal level, including knowledge, skills, beliefs,

and norms; (2) the interpersonal level, including relationships between individuals and families, neighbors, peers, and others; (3) the organizational level, including organizational culture, climate, norms, structures, and capacities; (4) the community level, including organizations within a community, community resources, capacities, structures, formal/informal leaderships, and norms; and (5) the policy level, including regulations, procedures, rules, and legislations. This model leads health professions to systematically examine the factors related to health and develop comprehensive health interventions (McLeroy, et al., 1988; as cited in Sallis and Owen, 2002). Further explanations made by Stokols (1992, 1996) for this model are associated with four aspects: (1) A person's health is determined by multiple physical and social factors; (2) The environments are multidimensional, containing physical or social factors, and actual or perceived factors; (3) Human-environment interaction can be described at varying levels of aggregations: individuals, families, social networks, organizations, culture and communities, etc.; and (4) Feedback depends on different levels of environments and aggregates of persons (as cited in Sallis and Owen, 2002).

## C2. Conceptual Model

The conceptual model for this study has been developed and presented as Figure 1.

## **D. Research Design and Methods**

### D1. Study Design

The proposed research design is primarily a qualitative study using an ethnographic approach. Creswell (2007) clarified that compared to the grounded theory approach, the ethnographic qualitative approach not only seeks to find the commonalities

of individuals being studied but also emphasizes that they reside in the same location. It addresses the entire cultural group. Creswell cites Harris's definition of ethnography, which is employed by researchers to describe and interpret the "shared and learned patterns of values, behaviors, beliefs, and languages of a cultural sharing group" (Creswell, 2007, p. 68). Creswell stated that "ethnographers study the meaning of the behavior, the language, and the interaction among the members of the culture-sharing group" (p. 69). An ethnographic study often requires extensive time for data collection. An ethnographic researcher usually immerses him/herself in the participants' life on a daily basis doing intensive on-site observations and interviews, as well as gathering data from other resources such as reviewing documents (Creswell). Within an ethnographer's holistic description of a group's history, religion, politics, economy, and environment, cultural concepts like social structures, kinship, political structures, and social relations may be included (Creswell, 2007; Fetterman, 1998).

This study design will primarily target a marginalized minority population, the Vietnamese refugees, resettled in the area of Greensboro, Guilford County, NC. The city of Greensboro will be defined as a community for these refugees in this study.

Communities are the "functional spatial units meeting basic needs for sustenance; units of patterned social interaction; [and] symbolic units of collective identity" (as cited in Minkler & Wallerstein, 2002, p.282). Data will be collected by applying different methods (e.g. individual interview, observation, and document review) and from multiple resources (e.g. refugees, refugee service providers, and emergency planning documents). The primary investigation will be focused on examining: (1) the refugee participants'

individual, family, and community's common characteristics in such as personality, coping behaviors, previous experiences, family belief systems, family organization, social support and network, infrastructure, organizational patterns, economic resources, political environment, and etc., which will be pertaining to their individual, family, and community resilience to a natural disaster; (2) the influence of both family and community resilience on an individual refugee's resilient characteristics with regard to their responding to and recovering from a natural disaster; (3) the individual perceptions of how to build and strengthen refugees' individual, family and community resilience to a natural disaster; and (4) any shared patterns or commonalities drawn from the collected data through previous steps from (1) to (3) regarding refugee participants' individual, family, and community resilience to a natural disaster. These shared patterns or commonalities may be identified as promoters or inhibitors of resilience or references for cultivating and enhancing resilience at different levels. The primary investigation will eventually serve to inform future public health preparedness by suggesting methods identified by using multilevel approach to improve refugees' resilience to a natural disaster in their host country.

## D2. Sampling

In the late 1970s, Vietnamese refugees started being resettled in the Triad area of North Carolina (Center for New North Carolinians [CNNC], 2002). There are four major Vietnamese minority groups in North Carolina, which include Chinese Vietnamese, Chams, Montagnards, and Khmers. From the fiscal year 1983 to 2007, approximately 9,730 Vietnamese refugees initially arrived in North Carolina (ORR, 2007). They were

resettled in multiple sites (e.g. Greensboro, Raleigh, Charlotte, Winston Salem, and High Point) (CNNC). In the year 2006, the total number of arrivals of Vietnamese refugees was 735, and it was second only to California, which had the largest initial receptions (n=845) of Vietnamese refugees among the 50 states (ORR, 2006). Data for the last five years, which was requested from the North Carolina State Refugee Office (2008), indicates that Vietnamese refugees resettled in North Carolina were nearly all Montagnards. On average, from January, 2003 to March, 2008, each year, more than 440 Montagnard refugees with a ratio of 1.2: 1 male to female, came to the U.S., and resettled mainly in Greensboro, Charlotte, and Raleigh. Approximately 7,000 Montagnards are now living in NC. Guilford County has around 5,000 Montagnards, which makes it the largest Montagnard community outside of Vietnam. More than half reside in Greensboro and only a few hundreds have remained in other states (CNNC, 2008).

The unit of analysis for an ethnographic approach is normally larger than 20 participants (Creswell, 2007). In this proposed study, the initial sample size for gathering primary data consists of 25 Vietnamese refugees, including Montagnards. More or less participants may be needed to achieve data saturation. The criteria for sampling include both inclusion and exclusion criteria. Inclusion criteria are that the individuals must: (1) be entering U.S. with a refugee status; (2) meet the definition of being a Vietnamese or Montagnard; (3) be an adult aged 18 and above; (4) live in Greensboro more than 1 year; (5) be willing to provide in-depth information; and (6) be willing to sign a consent form. Potential participants who have cognitive impairments will be excluded. Due to the difficulty in reaching refugee populations, potential participants will be located through

nonprobability snowball sampling as well. The first participant who meets the criteria will be identified through people who are working with refugees, such as a priest or pastor in a Vietnamese church, or a refugee service provider in a refugee resettlement agency. This participant will be asked to introduce the researcher one or two other potential participants who meet the criteria after his/her first interview (Creswell, 2007; Trochim, 2006).

Moreover, 5 to 10 refugee service providers will be identified for an individual interview as additional resources to enrich the primary data. These providers will be mainly from resettlement agencies and sponsoring organizations (e.g. Church World Services, former Lutheran Family Services, CNNC, and Montagnard Dega Association) and Greensboro local churches (e.g. United Montagnard Christian church, Montagnard Baptist church, Vietnamese Baptist church, etc.). Providers who have been providing services to Vietnamese refugees for more than 3 years and can speak fluent English will be recruited. Snowball sampling will be applied as well.

## **E. Data Collection**

### **E1. Study Settings**

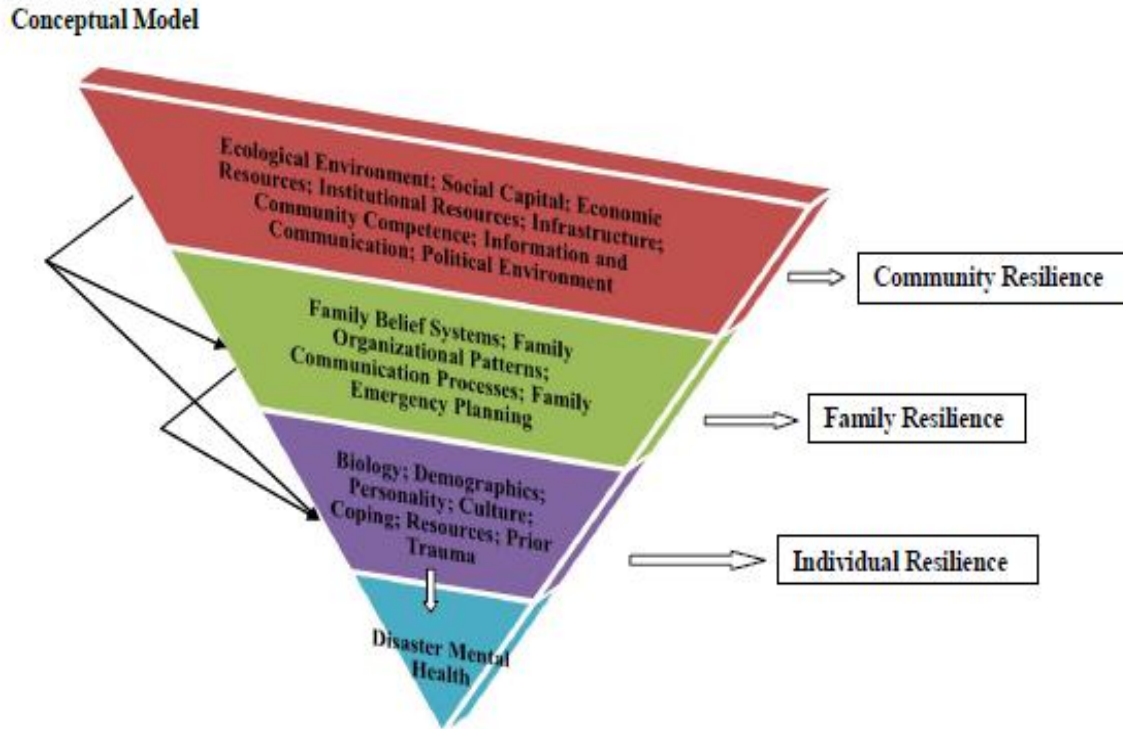
By population, Greensboro is the third largest city in NC and the largest city in Guilford County (U.S. Census Bureau, 2000). It was established in 1808 with four major developments shaping the city before the Civil War: operation of a steam-powered cotton mill, growth of colleges, establishment of a network of rail lines, and occurrence of underground railroads. Greensboro continuously grows especially in the areas of education, infrastructures, industries, and economics (City of Greensboro, 2008).

Currently, the area of the city is about 84,320 acres including 5,450 acres of parks, open spaces, and beautification areas. A total of 23 fire stations, 7 central library and branches, 12 recreation centers, and 113,611 housing units are located in Greensboro (City of Greensboro, 2009). It has also been developed into a multicultural city with populations from Asia, Mexico, Puerto Rico, Cuba, and other countries (U.S. Census Bureau, 2008). Based on the 2006-2008 American Community Survey, Greensboro has approximately 242,817 residents with a nearly equivalent number of males and females. About 51.4% are whites, 39.5% are African-Americans, 3.3% are Asians, and 6.9% are Latinos. The median family income is about \$54,218 (U.S. = \$63,211). Around 12.9% of families (U.S. = 9.6%) and 18.2% of individuals are below the poverty line (U.S. = 13.2%) (U.S. Census Bureau, 2008).

Since 1979, approximately 4,000 Vietnamese refugees and secondary migrants not including Montagnards from the central highlands of Vietnam have been resettled in Greensboro, in addition to 500 Cambodian refugees who are closely affiliated with the Greensboro Buddhist Center, 200 Khmu refugees with 1,000 Laotians from other states, 250 Russian and Ukrainian refugees, and 2,000 refugees from Central European with 90% of them from Bosnia (CNNC, n.d.). More than 2,500 Montagnards reside in Greensboro and only a few hundreds have remained in other states (CNNC, 2008). Greensboro has become a refugee resettlement site in the past few years with the establishment of resettlement agencies such as African Services Coalition, former Lutheran Family Services, and Church World Services, and the refugee resettlement complexes. Greensboro is continuously receiving new refugees from all over the world.



Figure 1. Conceptual Model



Sources: Cutter, et al. (2008), Norris, F. H. & Stevens, S. P. (2007), Walsh, F. (2002), Charney, D. S. (2004), etc.

## E2. Instruments

### E2.1. Development of Interview Guides

Two semi-structured interview guides: Interview Guide for Refugee Participants (IGRP) (Appendix B) and Interview Guide for Refugee Service Providers (IGRSP) have been developed. Both interview guides will be used to examine the resilience at individual, family, and community levels, and refined and validated by refugee experts, Vietnamese refugee key informants who can speak English, a Vietnamese interpreter, and the dissertation committee.

#### *E2.1.1. Individual Resilience*

Questions developed for examining the aspects of individual resilience are based on the previous literature review (Section B2.1) and two validated and currently widely-acceptable measurements: Connor-Davidson Resilience Scale (CD-RISC) and Ways of Coping Questionnaire (WOCQ). These two instruments will not be actually used for the interviews because more in-depth qualitative information is expected to be captured from the refugee participants in order to obtain a relatively comprehensive understanding of this population. However, some of their constructs will be applied to either developing the interview guides or directing the data analysis.

#### *E2.1.2. Family Resilience*

The questions included in both IGPR and IGRSP intend to examine the family resilience in these domains: family belief systems, family organizational patterns, communication processes, and family emergency planning. The specific contents in each of the first three domains have been well established and illustrated by Walsh (2002). He defined them as the key processes of building family resilience.

#### *E2.1.3. Community Resilience*

Cutter et al. (2008) generates six major dimensions of community resilience based on their review of preceding literature. Four of them have been chosen as indicators for developing the questions for evaluating the community resilience: economic, institutional, infrastructure, and community competence in this study. Both ecological and social dimensions were excluded either because it is not the focus of this study or because it has been well covered by applying another indicator. In addition,

Norris and colleagues' two "primary sets of adaptive capacities: social capital, information and communication" (Norris & Stevens, 2007, p. 321), and political environment have been added as indicators as well.

#### E2.2. Observational Protocol

Three general questions will be answered through on-site observations: (1) What is the nature of the physical environment where Vietnamese refugees live (e.g. features and conditions of physical environment, housing, transportation)? (2) How do Vietnamese refugees living in this community interact with one another and with the wider community? (3) What are the routines of Vietnamese refugees living in this community and the community itself?

#### E3. Procedures

##### E3.1. Semi-Structured Interviews with Vietnamese Refugees

In total, 25 individual face-to-face interviews are expected to be conducted with Vietnamese refugees. The research findings will be mainly generated from these interviews. Each semi-structured in-depth interview will be scheduled with a consent form (Appendix A) being signed beforehand and confirmed one day before the actual interview occurs. It will be carried out in a community center, church, or the participant's house by the researcher. At the beginning of an interview, each participant will be asked to describe any of natural disasters that they have experienced. According to their description, if the participant presents a poor understanding of a natural disaster, he or she will be asked whether some photos depict a natural disaster (e.g. severe storm, flood, tornado, hurricane, and earthquake) or its destruction, which are obtained from the

National Geographic Society and the National Weather Services, could be shown to him or her. By doing this, the type of the disaster to which the researcher is referring can be demonstrated and clarified to the interviewees. Also, it can minimize any potential negative emotional or psychological impact on the interviewees by reviewing these photos. The IGRP will be used to guide the interview. A professional interpreter hired through the Center for New North Carolinians will be requested and be present through the entire process. The questions and responses between the participants and the researcher will be interpreted by him/her. All these interviews will be digitally recorded. The estimated duration for every interview is approximately an hour and a half.

### E3.2. Additional Information Resources

Semi-structured face-to face individual interviews will also be completed with 5 to 10 refugee service providers. An appointment will be made and a consent form will be signed in advance. These providers will be interviewed by the researcher in their working places. The participants will be asked to describe any of natural disasters that Vietnamese refugees experienced in Greensboro at the beginning of their interviews as well. The photos of natural disasters will be shown to them if necessary. The IGRSP will be applied to directing each interview. All these interviews will be digitally recorded. The estimated duration for every interview is approximately an hour and a half.

The researcher will also conduct intensive on-site observations to respond to the three general questions regarding the physical environment of the targeting community, daily interactions of refugees living in this community, and the regular activities of this community and its refugee residents. Field notes will be taken.

In addition, the information concerning the history, composition (e.g. ethnicity, gender, total numbers of the refugee and non-refugee residents, socio-economic status), geographic distribution of refugees and community first response teams, and built-in organizations/facilities/teams of the community will be obtained through a document review. Existing emergency plans for the targeted local community will be expected to be collected, reviewed, and analyzed as well.

#### E4. Data Analysis and Interpretation

Qualitative analysis software will be used to analyze the data. Data will be analyzed by addressing these procedures: (1) All the data will be transcribed in English; (2) The data will be analyzed based on the current conceptual model; (3) The data will be organized and written narratively by following the scheme of individual, family, and community resilience and using a third-person voice; (4) The top-down coding and the analysis of themes will be applied and the codes, categories, dimensions, and themes will be generated from the data. The resources included in the section F3.2.1. for developing the interview guides will be utilized as references for generating categories or dimensions; (5) The number of references to each category will be recorded; and (6) The sorted data will be interpreted to respond to the four major research questions concerning: a) the current nature of Vietnamese refugees' resilience at the individual, family, and community levels in the event of a natural disaster; b) the current promoters and inhibitors that contribute to Vietnamese refugees' individual, family, and community resilience to a natural disaster; c) from both refugees and refugee service providers' perspectives and by utilizing the notions of individual, family, and community resilience,

the aspects of resilience that should be strengthened to reduce the risk of mental illness as a results of a natural disaster; and d) the methods identified by using a multilevel approach for future public health preparedness to improve refugees' resilience to a natural disaster in their host country. On a separate note, data collected from the refugees and refugee service providers will be analyzed respectively by using the same procedures but compared and compiled together eventually. The report of the results will be presented by narratives, tables, or graphs.

In addition, descriptive data analysis will also be used. For instance, quantitative data describing the participants' demographic information and the number of references to each category will be employed.

#### **F. Overall Quality Control**

The validity of this study will be controlled in these aspects: (1) establishing trust and mutual understanding and correcting misinformation with the participants through intensive interpersonal communications and on-site observations; (2) collecting data from multiple resources by using multiple methods such as interviews, on-site observations and document reviews; (3) asking several refugee informants to review the data collection instruments and making reasonable justifications based on their comments; (4) asking external experts such as the dissertation committee to examine the research design and methods, and oversee the performance of data collection and data analysis; (5) keeping constant self-reflections of the researcher herself on her perspectives and attitudes towards the participants and issues in order to prevent the study from being biased; (6) verifying the collected data with each individual participant after his/her

interview; and (7) having a detailed description of the study settings, targeted population, and results. The reliability of this study will be controlled in these aspects: (1) using a high quality digital recorder for data recording; (2) hiring professional interpreters; and (3) having the researcher herself analyze all the data.

### **G. Limitations**

The limitations of this study can be illustrated in these aspects: (1) This study will only target Vietnamese refugees in Greensboro, NC and use the snowball sampling strategy. Results generated from this study may not be representative to other refugee populations or Vietnamese refugees in other areas, (2) Prolonged time will be spent in the field collecting data through both individual interviews and on-site observations, (3) In order to obtain in-depth information, some fieldwork issues such as respect, confidentiality, deception, and reciprocity between the researcher and participants may be raised, (4) In order to reduce the researcher's personal biases, the researcher will have to bracket her own experiences, culture, and perspectives from this study through constant self-reflection, (5) This study may not be ethically validated because it is not able to address the diversity of U.S. refugees. The underlying inequity issues may exist in other refugee groups, and (6) Another limitation relates to the analysis of data that has been interpreted into English. The interpretation from the participants' original languages results in a loss of some cultural information.

### **H. Budget**

The estimated budget for this dissertation study was presented in Table 1.

## I. Timeline

The timeline for this dissertation study was presented in Table 2.

Table 1. Dissertation Study Budget

| <i>Budget Item</i>            | <i>Estimated Cost</i>  |
|-------------------------------|--|
| <i>Interpreter services</i>   | <i>\$2,000 (\$40/hour x 2hour/interview x 25 interviews)</i> |
| <i>Transcription services</i> | <i>\$ 0</i>  |
| <i>Software</i>               | <i>\$0</i>   |
| <i>Digital recorder</i>       | <i>\$150</i>   |
| <i>Travel</i>                 | <i>\$ 400 (\$0.505/mile x 50 miles/week x 16 weeks)</i>      |
| <i>Site related costs</i>     | <i>\$500 (\$20/gift card x 25)</i>                           |
| <i>Contingent cost</i>        | <i>\$200</i>   |
| <i>Total Budget</i>           | <i>\$ 3,250</i>  |

Table 2. Dissertation Study Timeline (06/2010-03/2011)

| <i>Procedures</i>   | <i>6</i> | <i>7</i> | <i>8</i> | <i>9</i> | <i>10</i> | <i>11</i> | <i>12</i> | <i>1</i> | <i>2</i> | <i>3</i> |
|---|----------|----------|----------|----------|-----------|-----------|-----------|----------|----------|----------|
| <i>Revise and finalize the interview guides and apply for the IRB approval</i>  | x        | x        |          |          |           |           |           |          |          |          |
| <i>Make connections with potential participants, gatekeepers, and informants' through refugee resettlement agencies, churches, and other agencies</i> | x        | x        | x        |          |           |           |           |          |          |          |
| <i>Schedule interviews, obtain written consents, and conduct interviews</i>   |          |          | x        | x        | x         | x         | x         | x        |          |          |
| <i>Conduct on-site observations</i>   |          |          |          | x        | x         | x         | x         | x        |          |          |
| <i>Request and review documents</i>   |          |          |          | x        | x         | x         | x         | x        |          |          |
| <i>Transcribe data</i>  |          |          |          | x        | x         | x         | x         | x        |          |          |
| <i>Analyze transcripts</i>  |          |          |          |          |           |           |           |          | x        | x        |
| <i>Write up results</i>   |          |          |          |          |           |           |           |          | x        | x        |



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## CHAPTER II

### VIETNAMESE REFUGEES' INDIVIDUAL AND FAMILY RESILIENCE: RESOURCES FOR A POTENTIAL NATURAL DISASTER IN THEIR HOST COUNTRY

#### **A. Abstract**

Previous findings suggested that compared to the general population, refugees are more susceptible to disaster mental disorders. The purpose of this study is to qualitatively explore Vietnamese refugees' currently shared nature of their individual and family resilience to a natural disaster in their host country so as to improve their disaster mental health. An ethnographic approach was applied. A total of 20 ethnic Vietnamese and ethnic Montagnard refugees resettled in North Carolina were interviewed. Each individual face-to-face interview was guided by using a validated semi-structured interview guide. The participants' characteristics at both individual and family levels of resilience, such as disaster experiences, personal traits, coping behaviors, physical and social resources, family belief systems, family communication process, and family organizational patterns, were examined. The data were analyzed using top-down coding and the analysis of themes. Results indicated that the refugee participants had positive personalities in general, which brought a favorable impact into their individual disaster coping. Although a majority of the participants experienced a natural disaster, there was a notable lack of both knowledge and specific coping strategies of natural disasters among them. Neither the individual participants nor their families had sufficient and effective

information and financial resources, emergency supplies, and social support and social networks during a natural disaster. However, awareness of collaborative problem-solving and a strong family emotional and behavioral cohesion have been well presented by the participants. The data concluded that in regard to resilience, the participants' disadvantages have outweighed their advantages in responding to a natural disaster. In the future, public health professionals should consider enhancing Vietnamese refugees' existing strengths in responding to a disaster, delivering continuous and tailored emergency training to them, strengthening the relationship with both refugee service providers and Vietnamese refugee communities, and advocating for Vietnamese refugees' self-sufficient socioeconomic capacity building.

## **B. Introduction**

Public disasters, whether they are natural or man-made, have taken a tremendous toll on not only people's lives and properties but also the survivors' mental health. A considerable number of studies conducted among diverse population groups have demonstrated the impact of disasters on both prevalence and incidence of disaster-related mental disorders such as post-traumatic stress disorder (PTSD), major depression and anxiety (Galea, Nandi, & Vlahov, 2005; Jehel et al., 2003; Satcher, Friel, & Bell, 2007).

Previous studies provide support for further research to explore a variety of factors that affect a population's vulnerability to mental disorders in the event of a public disaster. For instance, regardless of type of trauma, accumulative traumatic/disaster experiences are associated with an increased risk for a psychological or mental illness. Shevlin et al. (2008) concluded from their study in Great Britain, that there is a positive

dose-response relationship between the prevalence of psychosis and the quantity of prior experienced traumas. Similar results were found in the studies with Cambodian refugee adults resettled in a Thai refugee border camp and Ugandan and Sudanese nationals and refugees in Uganda and Sudan (Mollica, McInnes, Poole, & Tor, 1991; Neuner et al., 2004). A history of psychiatric disorders also increases the likelihood of a recurrence or a new development of a mental illness during or after a public crisis, as evidenced by studies after the Oklahoma City bombing, Hurricane Katrina, the 1996 Paris subway bomb attack and 2004 Madrid city bombing (Gabriel, 2007; Jehel, Paterniti, Brunet, Duchet, & Guelfi, 2003; Mills, Edmondson, & Park, 2007; North et al., 1999; Silver, et al., 2002). Moreover, receiving a late or no psychological crisis intervention can intensify a victim's risk of developing a mental disorder. The Center for Disease Control and Prevention (CDC) (2003) urges that disaster victims should receive emergency mental health care within the first 4 weeks after an event.

Because of the evidence linking accumulative traumatic experiences with adverse mental health effects, we sought to examine vulnerability to mental illness resulting from a natural disaster among a population with known previous exposure to traumatic experiences. Refugee populations have often experienced multiple traumas (e.g. famine, torture, severe infectious diseases, witnessing family members or friends being killed, forced isolation, or feeling close to death) in their country of origin, refugee camps, or during their forced migration prior to their arrivals in a resettlement country (e.g. Lears & Abbott, 2005; Gardozo, Vergara, Agani, & Gotway, 2000; Karunakara et al., 2004; U.S. Department of Veteran Affairs, 2002). Among refugees, the prevalence of a history of

psychiatric disorders is also high. Epidemiological data suggests that compared to the general U.S. population, U.S. refugees are more susceptible to PTSD, depression, and anxiety (Barnes, 2001; Carlson & Rosser-Hogan, 1994; Marshall, Schell, Elliott, Berthold, & Chun, 2005). In addition, refugees are underserved within the U.S. mental health system. Either a lack of accessible and affordable mental health services or a lack of refugees' utilization of the services explained this failure to receive care (Gong-Guy et al., 1991; Hsu et al., 2004; Lears & Abbott, 2005; Wong et al., 2006). Simply put, refugees are more vulnerable to mental disorders in response to a newly developed public disaster compared to the general population.

#### B1. Individual Resilience

In the last 20 to 30 years, the concept of resilience has been emphasized and identified as an important factor that can mitigate the effects of disasters on mental health (Vanbreda, 2001). Research efforts have been redirected from simply minimizing the consequences of adversities to strengthening each individual's capacity of overcoming the difficulties, through building up their resilience (Vanbreda, 2001). An essential component of resilience is the synthesized and sustained competence (e.g. skills, knowledge, insights, emotions, etc.) of dealing with stress that results from encountering life-time stressful events like a public disaster (as cited in Vanbreda, 2001; Agaibi & Wilson, 2005; Connor & Davidson, 2003; Connor, 2006). Resilience also means that some individuals do not experience negative mental health effects despite being exposed to traumatic experiences that would be expected to produce such effects (Rutter, 2007). Individual resilience has been described as a "personal quality" (Connor & Davidson,

2003, p. 76; Connor, 2006, p.46). It is associated with an individual's physical and psychological attributes; roles and relations in society; exposure to stressful situations; and worldview or life paradigm (Polk, 1997). A number of studies have suggested a predictive relationship between resilience and mental health in the face of a stressful or traumatic event as well as a moderating role of resilience in reducing the negative impact of stressors or traumas on the onset of psychiatric impairments (Campbell-Sills et al., 2006; Hjemdal et al., 2006; Deegan, 2005).

## B2. Family Resilience

Individual resilience is also cultivated and regulated by family resilience, or the resilience exhibited by the family unit. Walsh (1996) defined family resilience as a type of relational resilience that “seeks to identify and foster key processes that enable families to cope more effectively and emerge hardier from crises or persistent stresses, whether from within or from outside the family” (p. 262). H. I. McCubbin and M. A. McCubbin (1988) categorized a resilient family into three typologies: a balanced family with the strongest viability, a rhythmic family with most highly structured family times and routines for specific family activities, and a regenerative family with the most family cohesion. How a family copes with a disaster impacts both the unit's and its members' adjustment and adaptation in an immediate and long-term manner (McCubbin & Patterson, 1983; Walsh, 1996). Every family operates as an adaptive system for each of its members who are protected during an emergency preparation, response, and recovery by the family's well-established functions (Masten & Shaffer, 2006; Masten, & Obradović, 2008). Walsh (2002) proposed a family resilience framework serve as a

conceptual map for designing prevention and intervention program for increasing family resistance to and recovery from a disaster. Three domains were suggested as core competencies of building family resilience: (1) the shared family belief system which contributes to family resilience through bringing meaning to a crisis situation, encouraging family members to maintain a positive and optimistic view of the situation, and providing religious or spiritual support; (2) family organizational patterns fostered family resilience by the means of “flexible structure, shared leadership, mutual support, and team-work in facing life challenges” (p. 132); and (3) family communication processes facilitated the growth of family resilience through clarifying “ambiguous situations”, encouraging “open emotional expression and empathetic response”, and supporting “collaborative problem solving” (p. 133). In practice, two studies have demonstrated that trauma-related healing services using a family-oriented resilience approach were very well accepted by Bosnian and Kosovar refugees (Walsh, 1998, 1999).

Linking all these perceptions together, as part of a larger qualitative research study, which also included community resilience, by using an ethnographic approach, the current study examined both individual and family resilience to a natural disaster among Vietnamese refugees who have been resettled in the U.S. It aimed to answer three research questions: (1) For Vietnamese refugees resettled in Greensboro, NC, what is their currently shared nature of resilience at the individual and family levels in the event of a natural disaster? (2) What factors support or impede their resilience at the individual and family levels and should be addressed to reduce their risk of mental illness as a result of a natural disaster? and (3) What do public health professionals need to know about the

nature of individual and family resilience among Vietnamese refugees in order to adequately prepare this population?

## **C. Methods**

### **C1. Sampling**

In the late 1970s, Vietnamese refugees first started resettling in the Triad area of North Carolina (Center for New North Carolinians [CNNC], 2002). From the fiscal year 1983 to 2007, in NC, the number of resettled Vietnamese refugees (including its minority groups, such as Montagnards, Chinese Vietnamese, Chams, and Khmers) has reached approximately 9,730 (ORR, 2007). Of these, a majority was residing in Greensboro, Raleigh, Charlotte, Winston Salem, and High Point (CNNC). In 2006, the number of newly resettled Vietnamese refugees in NC was second to California, which had the largest among the 50 states (ORR, 2006). Greensboro is located in Guilford County, which has the largest Montagnard community outside of Vietnam (approximately 50% of all Montagnard refugees in the US) (CNNC, 2008).

In this study, all the refugee participants were recruited from Greensboro, NC through community centers, local refugee resettlement agencies, and English as a Second Language (ESL) classes. A total of 20 Vietnamese refugee adults including 10 ethnic Vietnamese majorities and 10 Montagnard Vietnamese minorities participated in this study during the period of from September 2010 to January 2011. Refugees were defined by the status that they carried when they first entered the U.S. Because this is a hard-to-reach population group, in order to efficiently identify them, both nonprobability snowball sampling and criteria sampling were applied.

Table 3 provides a brief description of each participant, including gender, age and ethnicity. Each participant is identified using a pseudonym to protect their identity. Fifteen of the twenty participants were male, and most were between the ages of 40-70. All but two were married. One participant was 28 years old and two participants were over 70 years old. In total, 19 out of 20 identified themselves as either a Christian or a Catholic. In terms of language spoken, the ethnic Vietnamese often only speak Vietnamese. The Montagnards are multi-linguistic. Their native languages are usually Jarai, Rhade, Bunong, and Koho but they are often fluent in one of them and good at some of the rest. However, most of them don't know how to read and write in their own languages. Regarding the years in the U.S., only one ethnic Vietnamese refugee reported that he was resettled in this country for only about 11 months and a few days, but he has already been his community spokesperson. The rest of the participants have been residing in Greensboro for one to five years or above.

### C3. Instruments

The interview guide for the refugee participants was semi-structured and contained 25 questions with 13 questions designed to capture the main characteristics of individual and family resilience. Most questions were open-ended. It was developed using an intensive literature review on previous research studies and validated measurements, such as Connor-Davidson Resilience scale (CD-RISC) by Connor and Davidson (2003) and Ways of Coping Questionnaire (WOCQ) by Folkman et al. (1986). All the questions were situated in an assumption of an upcoming natural disaster like a tornado, winter storm, hurricane, and flooding. Questions developed to examine



individual resilience focused on previous stressful experiences like a public emergency, personal traits, coping skills, tangible and intangible resources (Agaibi & Wilson, 2005; Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Charney, 2004; Clauss-Ehlers, 2008; Gillespie, Chaboyer, & Wallis, 2007). Questions used to study family resilience were built upon Walsh's early work (2002) that covered the key process of fostering family resilience, including family belief systems (e.g. spirituality and making meaning of adversity), communication processes (e.g. collaborative problem solving), and organizational patterns (e.g. connectedness, and social economic resources). All the questions in this interview guide were validated by nine academic and non-academic refugee experts including refugee key informants who can speak fluent English, and a Vietnamese interpreter.

Table 3: Study Participants' Overall Characteristics

| Characteristics         | Number | Percentage |
|-------------------------|--------|------------|
| Gender                  |        |            |
| Male                    | 15     | 75%        |
| Female                  | 5      | 25%        |
| Marital status          |        |            |
| Married                 | 18     | 90%        |
| Single/Separated        | 2      | 10%        |
| Age                     |        |            |
| <40                     | 1      | 5%         |
| 40-70                   | 17     | 85%        |
| >70                     | 2      | 10%        |
| Religion                |        |            |
| Yes                     | 19     | 95%        |
| No                      | 1      | 5%         |
| Language                |        |            |
| Vietnamese              | 10     | 50%        |
| Jarai/Rhade/Bunong/Koho | 10     | 50%        |
| Employment              |        |            |
| Yes                     | 6      | 30%        |

|                     |    |     |
|---------------------|----|-----|
| No                  | 14 | 70% |
| Years in Greensboro |    |     |
| <1                  | 1  | 5%  |
| 1-2                 | 7  | 35% |
| 2-5                 | 7  | 35% |
| >5                  | 5  | 25% |
| Total               | 20 |     |

### C3. Procedures

The study was approved by the Institutional Review Board at the University of North Carolina at Greensboro. At the beginning of each interview, the translated consent form was read and explained to the participants and then signed by them. A total of 20 individual in-depth interviews were completed with the refugee participants in their homes, community centers, or local restaurants. A complete interview lasted about an hour and a half to two hours, which contained the questions related to community resilience as well. The time spent by the participants responding to the questions only related to individual and family resilience was approximately between an hour and an hour and a half. A professional interpreter was present each time. All interviews were digitally recorded.

*Scenario* The participants were first asked to describe any natural disasters that they experienced or heard of. For those participants who had difficulties in depicting a natural disaster, photographs regarding the scene and consequences of different natural disasters were shown and explained. These included actual photos obtained from the National Geographic Society and the National Weather Services. As the interview continued, the photos were presented iteratively as needed.

Supplemental data were collected from interviews with three refugee service providers, on-site observations, and informal conversations with the Vietnamese interpreters. These data served as the evidence for verifying the primary data as well as supporting their interpretation.

#### C4. Data Analysis and Interpretation

All audio data were transcribed in English. Transcribed data were analyzed using ATLAS Ti version 6.0 (ATLAS Ti Scientific Software Development GmbH, Germany). Due to the nature of ethnography, an ethnographic approach allows the researchers to describe and interpret the “shared and learned patterns of values, behaviors, beliefs, and languages of a cultural sharing group” (Creswell, 2007, P. 69). By using this approach, data in this study were analyzed first for a portrait of the commonalities among the participants, and then both the top-down coding and the analysis of themes were applied to establish the coding systems. Using constructs from the literature as described in the instruments section above, data were assigned to categories related to individual resilience (experiences with natural disasters, personal traits and coping strategies to deal with problems and disasters, and resources with a natural disaster), as well as family resilience (making meaning of adversity, spirituality, collaborative problem solving, connectedness, social economic resources,). The data were also presented to help in addressing the three initial research questions mentioned earlier. All the names used in the results section are pseudonyms.

## **D. Results**

### **D1. Individual Resilience**

#### **D1.1. Experience with Natural Disasters**

Twelve of the 20 participants (60%) reported that they had personally experienced a natural disaster while living in Vietnam. Most frequently mentioned were hurricanes, tornados and flooding. All but two of the remaining participants reported exposure to severe weather events here in Greensboro, with tornados and snowstorms cited as examples. Only two female participants reported that they knew nothing about natural disasters. Descriptions of the reported events ranged from very severe to relatively mild. Minh described his repeated experience with weather-related disasters:

From August to September, I got a lot of hurricanes. One year, I got 11 hurricanes...Everything was destroyed. The roof flew away so (there is) no roof...Hurricane in 1999, the water from the ocean rose. Raining and flooding, water coming down from the mountain, the wind was very strong and flushed away all the houses. Animals died. Flushed everything away. When the water was running, everything including animals was flushed to the ocean...My house was destroyed. Before the flood or hurricane, they let me know and I moved to a safe location.

The term “natural disaster” was not familiar to all participants, but they could describe what it looked like, for instance, “a very heavy wind,” “quickly,” “lots of raining,” “rain, a heavy rain,” “house was shaking,” and “water all over the place.” Moreover, the participants described the consequences of a disaster using concrete and physical terms, including: “heavy wind and pull my house to one side,” “(It only destroyed) some small things like clothes outside were blown away,” “just blew away something. It didn’t destroy something or harm my family,” “Tornado came with very

heavy wind. It damaged my house,” “My house was not built by bricks but built by leaves so it was easy to, when there was a tornado, be damaged or fall,” “from my house to the market, the trees fell,” “It was not much and I can walk (in the water). It was not very severe. You cannot ride a bike. The water will go into the engine,” and “the tornado went straight in a line. Just (after) a couple of minutes, everything was damaged.

#### D1.2. Personal Traits and Coping Strategies to Deal with Problems and Disasters

The participants described personal traits that allowed them to cope and survive during difficult times while in Vietnam. Specifically, they cited the need to be focused, calm, persistent, patient and optimistic. Giang stated that while confronting a problem, he would be calm and find a way to resolve the problem since being angry would not be helpful. Da.o also stated that if he got difficult things, he would stay there and finish it (what he should do) and would not just walk away. The participants demonstrated that they would not give up their lives easily especially after experiencing all the previous life traumas (e.g. poverty, famine, living in the jungles). They would be scared in the wake of a natural disaster like everyone else but they would also discipline themselves to overcome the fear until they reached their limitations as De said: “I believe I will be sacred, but I will be calm.”

Thu: (In a natural disaster situation), (I would be) pretty optimistic. You know. I am not stuck with the hard time. I will overcome it. I believe in everything happens for a reason, good or bad. I think everything...if you calm down yourself and you do what you are supposed to do, and follow your instinct, you can skip (overcome) the disaster or find a way to get out of it. That is what I believe.

Hung: (In a difficult situation), first thing is I have to be patient and then ask what happened and why (it happened). (Then) I will try to understand the situation and to solve the problem.

Participants described both their problem-solving and emotion-driven coping skills with a natural disaster. However, they expressed more concerns of dealing with a disaster in the U.S. than in Vietnam, such as “We know a little bit but no one told us yet,” “If it happens, I will call the police only. I don’t prepare,” “A natural disaster here may be stronger than the one in Vietnam so probably I will ask for help...,” and “because of the language barrier, I don’t know how to ask them for help.”

#### D.1.3. Resources for a Natural Disaster

More than half of the participants did not have a TV or have a weather channel. A majority of the participants did not listen to a radio. The participants who had a TV accessed a severe weather warning through a local or national weather channel or daily news. Although they could not understand the language for most of the time, they identify the information through recognizing the typical weather icons. However, television may not always be available because of financial hardships they face.

Although most of the participants would expect to receive help from their local ethnic organizations and resettlement agencies, they no longer had their contact information available especially after they were resettled in Greensboro for several years. They had friends but in most cases, it was like “if I don’t have the number, how can I call them?” and “all my friends live far away from me.” In their community, if they needed their neighbors’ help, they may encounter a situation: “Because of the language barrier, when I met them, I don’t know how to communicate with them. They don’t know how to communicate with us.” Fortunately, local churches had become the places for their regular gatherings. The Senior Resources Center was also a frequent social place for most

senior ethnic Vietnamese. Moreover, if they need help from the government, the only direct access they knew was to call 911 as they believed “the police will tell the government” for them. No matter whether they were Montagnards or ethnic Vietnamese, they had expressed a great deal of faith in the U.S. government particularly in the face of a public disaster. Ho.c thought that helping people was the duty of a government, the government loves people, and the government would not want anyone to die.

### Family Resilience

#### D1.4. Shared Family Belief Systems- Spirituality and Overcoming Adversity

A total of 19 out of 20 families had a common family religion. Eighteen families stated their family went to their church together and regularly for most of the time. In some families, praying together was their essential emotional coping strategy with a natural disaster. For example, Thanh explained,

If it (a natural disaster) happens, we (will) just try to stay in our room and pray to God, not only for our house, (but also) for this area, for Greensboro too. We pray and pray for God to keep us... (In order to recover from a disaster), to protect or to fight back, we don't know how. But for ourselves, not only for me, I usually have all my family stay together and pray together. That is all we will do. Of course, we will discuss something if we need but in the end we pray. That's all... The first one is we will try to gather the family to tell the news and comfort (each other), “please don't go anywhere or please don't do anything. If something happens, just stay home.” The second one is we rely on God. We pray.

Some of them also stated they would pray and seek comfort from their Father (Catholic priest) before they asked for any other help. Danh said,

I am a Catholic so I believe in God. If something happens like that, if the Father comes over there and says something to me and calm me down, it will be very important. The government can come maybe a little bit later and help us to

recover. I believe the Church World Services and the sponsor will come to help me.

#### D1.5. Family Communication Processes-Collaborative Problem Solving

All the participants reported that man was the head of the house in their families. As long as the husband, father, or a senior male relative were present, mostly they would be the ones to make important and final decisions. If only women were at home, children would usually have to listen to their mothers, and younger siblings would have to listen to their older siblings. The women in this study confirmed this arrangement. An stated that she never disagreed with her husband even if she had different opinions. She would forgive him if he made a wrong decision for the whole family. Similarly, Chi reported that she would absolutely be aligned with his husband's decision because she is a woman, she worked slowly in America, and she did not drive a car. Truc stated that her husband never thought he would make a wrong decision for his family. He gave assignments to her and their kids, and then all the family would have to come together and accomplish their assignments. From the men's perspectives, Ho.c thought his family did not know anything. He was the person who was trying to do something so there was no doubt that his family should try to listen to him and follow his decision. Da.o was very confident that his family would listen to him no matter what because he knew them so well. However, of these families, approximately two-thirds did go through a shared decision making process if time is available for an open discussion. Xuan believed that they would have to discuss the issues, identify the priorities, and decide everything collectively. They would try to stay together, discuss, and solve the problem. Duc agreed that everyone in



his family should jointly make decisions to help their family from now until the future.

Thanh also clarified his responses to different situations,

If we have time, of course, we will try to decide together. I will unite my family and ask them how to decide. If it is an emergency and we need to be quick, of course, I will decide. But of course, the decision will be the same, not different. The decision from my family and from me will be almost the same. If I decide, they will have to agree. If we decide together, we all agree too.

Followed by Danh,

Sometimes if we have questions and difficulties, we (will) ask each other and support each other. What is this, and what is that?... If I don't agree, and I get a high (bad) temper a little bit, I (will) walk away...and come back later (to discuss again)... It depends on a situation. If it is a hurricane, I say: "We got to go." She says: "No." then (I) look outside, I say: "You get ready. We need to go." Then we (will) go. If I think she is right, I may stay with her (though).

Most participants also declared that even if they were encountering a natural disaster, if every family member could contribute his/her ideas, their final decision could be better as Tho described: "More people thinking is better than one because I can pick the one (that is) really good."

Uoc: If together, I can ask my children. Together, the husband and the wife, we will try to decide together. It's better than to solve a problem by myself or by my husband himself. Because we are afraid, we may not know what to do. So of course, we have to discuss.

Minh: The whole family works together is better than one. One tree will not be tall enough but three or four trees (added together) will be tall like a mountain. Sometimes because I am old, I don't remember things. My son will remind me and help me out.

#### D1.6. Family Organizational Patterns-Connectedness

Each participant presented the evidence of how their families or extended families gave each other emotional and behavioral support. They spoke to each other directly about their needs. Chi stated that normally, she had never been working a lot at home. Her husband and her children mostly helped her clean up the house and wash the dishes. Xuan and his children helped his wife either cook or do the cleaning. If someone was sick in the house, they would take him or her to see a doctor together. Duc's older sons helped the family pay the rent and food once they had the money. An agreed that her husband had brought her and their children so much courage and confidence. Ho.c always told his wife not to worry too much about their lives and not to be sad. He tried his best to advise and comfort her while they were facing the life challenges. Duc provided an example regarding how he was parenting his young children,

Of course, I usually comfort my children, mostly the people (children) who have already got a job, I told them to go to work on time, work very hard, don't be absent, don't be lazy, and if not, they will fire you, if you don't have a job, you cannot survive, help yourself, and help your family, so if you help the family, if you have a job, you will have to help me too, pay the rent or buy food as much as you can. I usually comfort my family very often.

In an emergency situation like a natural disaster, Uoc believed that he and his family would communicate with each other more frequently than usual and would advise each other not to be frustrated, sad, and worried. Based on Duc's tornado experience in Vietnam, during the recovery, he said that he and his family collaboratively repaired their house mostly with the roof before the U.S. army got involved. To.ai and Danh both remembered their responses to a tornado with their families in Vietnam,

I don't know that (the tornado). All of a sudden, it came. I got a house in Vietnam. I did not know it was coming. (When it happened), I got something around to hold the house... (Otherwise it would fall)...All (the rest of the) family was gone. I stayed. (I did not go with them because) I was afraid the house (would be) blown away...I knew the wind was so strong. I got scared so I ran out of the house... (I asked my family to go first). All the children go. All the personal property was damaged by the water/rain.

In 2008, tornado in Vietnam...From my house to the market, the trees fell...The house was shaking. My son and I had to hold it and pull it...We got pillars and I was holding it... Grandkids were under the bed...Sometimes the wind blows them (metal roofs) away. It flies and can cut people. Usually in Vietnam, we have wood tables. (They are) very strong. The wood is very good. So I told them to get down under the bed and table. It only happened five to eight minutes and then it stopped. If it was longer, it (would) probably damage the house, (like) collapse...a little damage in the back. Some of the metal roofs were blown away. Usually Vietnamese houses, (the roofs), they have an angle, 45 degree, so the wind might not be able to pull them out. The wind will not take the whole thing off...That was my first time to experience that... (After the tornado), I just cleaned up the damages. I got my son (to help me).

While assuming a future natural disaster in Greensboro, Minh believed that his family would help each other and listen to each other in order to solve the problem. Maybe his son could take care of himself but the main thing was to take the family to a safe location and prepare what was necessary to help each other. Tho thought in that situation, everyone would be responsible for different things in order to help each other. Everyone should carry the things that they had already prepared and went to a safe location. Danh thought each family member would carry the necessary documents and some light supplies like clothes. Ho.c also strongly demonstrated that as long as he and his family could be together, even if they had to die, he would not be afraid.

It was not uncommon during the interviews, that the participants would highlight how they would take care of their children and vulnerable family members in a natural

disaster. Chi mentioned that during last year's snow storm, her husband went out to buy the groceries. He did not let their children go with him although they insisted. He told them if anything happened, it would only happen to him. To.ai stated that if a disaster happened, and they did not have enough food, they would encourage their kids to eat in order to survive. Bao made it clear that in a disaster, they would take care of the kids first. Then after that, they would take the rest of themselves to a safe shelter. Giang expressed his thoughts fondly:

My wife's health is not great. So if something happens, I will take my wife to a safe place first and come back to do what (I) have to do to take care of here. Losing everything is ok. Everything in the house is gone, that is fine. The (my) wife and the (my) children are very important to me.

#### D.1.7. Family Organizational Patterns-Economic Resources and Emergency Supplies

Regarding family economic resources and emergency supplies, 12 out of 20 families had a car. A majority of the participants' families regularly prepared bottled water, instant noodle, and rice for between about a week and a month. Some participants' families would prepare more emergency supplies. For example, Danh's family would prepare a tent or something and put them in a bag. They also had the rain coats. He and his family would like to have everything together and get ready in advance. Thanh would have some medicine for his family but he stated that they only had some "very simple medicine" like Tylenol, and he and his family were "not ready for a big thing to happen." For his kids, they already had food available specifically milk. However, they also claimed that their family financial situation would determine to what degree they would be able to have these emergency supplies ready. R-1-1 said: "I need money. If I don't

have money, I will not be able to support (survive) this.” Duc mentioned: “unfortunately, my children, mostly two adults, they don’t have a job yet. So because they don’t have a job, my car is broken but I cannot fix it. I don’t have the money to fix it.”

## **E. Discussion**

This qualitative study provides some insight into the current nature of the Vietnamese refugees’ individual and family resilience as a resource in a potential natural disaster. Both ethnic Vietnamese and Montagnards were enlisted into this study. A considerable amount of time was spent in the Vietnamese refugee communities establishing relationships, learning their languages, cultures, values, and behaviors in general. A mutual understanding and a trustworthy relationship was established between the participants and their families and the researcher.

### **E1. Individual Resilience**

The overall impression of this group of refugee participants’ personal characteristics is that they were friendly, hospitable, calm, patient, and persistent. Most, however, were quite introverted or reserved in their interactions. What has been observed is that they barely initiated a conversation with a person that was introduced to them for the first time but giving this person a happy smile was not uncommon. They were not likely to disclose personal issues and express their feelings easily in public. They also maintained a certain degree of caution with both their physical and social environment. This could be linked to their previous traumas such as fleeing their country, living in the jungle, and being in jail for years. Supplemental findings from this study indicated that although they agreed that life in the United States did not seem to be as dangerous as

their lives before migration, they continually encountered obstacles such as financial distress, acculturation maladjustment, and separation with their families in Vietnam. These accumulative life stressors/traumas may predict a decreased level of their individual resilience and/or an increased vulnerability to a potential natural disaster (e.g. Bonanno, Galea, Bucciarelli, & Vlahov, 2007). Most of them claimed that they were aware of natural disasters based on what had been experienced, seen, and heard. A further inquiry about disaster-related terminologies, consequences, and preparation was beyond their current knowledge. The participants also indicated both their problem-solving and coping skills in reference to a natural disaster. It appeared that they had more confidence in responding to a natural disaster in Vietnam than in the U.S., particularly as it relates to receiving a severe weather warning, locating a shelter, finding emergency supplies, repairing their house, and accessing their neighbors and other social networks. Their potential responses to a natural disaster here have been presented in overly simple and vague manner. Findings from this study suggested that this could be due to their lack of knowledge of and coping skills with a natural disaster as well as an experience with a natural disaster in the U.S., unfamiliarity with their current environment, and the lack of information, supplies, and social support offered to them. Either strengthening their individual coping strategies and increasing the availability of resources may enhance their resilience and result in a decrease of their vulnerability to disaster mental illness in the event of a future natural disaster (Nucifora, Langlieb, Siegal, Everly, & Kaminsky, 2007; Bonanno, Galea, Bucciarelli, & Vlahov, 2007). The participants' strong dependence on the support of the U.S. government, refugee resettlement agencies, ethnic

organizations, and churches in the wake of a natural disaster has also been repeatedly implied by the data. This information challenges people to think how well these local social entities have been prepared for their people during a public emergency especially in an economic downturn.

## E2. Family Resilience

Most Vietnamese families could fall into the categories of rhythmic and regenerative families (H. I. McCubbin & M. A. McCubbin, 1988). Family was the core of the refugee participants' life. Family members were strongly connected as they described living "warmly and tightly together." They were connected both physically, emotionally (Davis, 2003), and spiritually. They believed in the same God, prayed to him jointly, and were inspired by him. Family members constantly communicated with each other through lunch, dinner, breaks, regular visits, and phone calls. They lived either together or nearby. They promoted collaborative problem-solving through facilitating a family open discussion, although men were still in charge of the process of a decision-making. Whether or not this process was effective, the conversation was initiated and maintained at least under a normal circumstance. In an emergency like a natural disaster, for the sake of time, problems may not be discussed, and decisions may have to be made by the men alone and immediately. However, they believed that a collaborative decision or response to a natural disaster could be wiser and more comprehensive. Moreover, they allocated family responsibilities to individuals based on each person's strength in most of the situations, including a crisis. It was no longer necessary for the women to do all the miscellaneous housework. The husbands and kids can help. Taking care of the younger

generation and vulnerable family members has been the family's priority under any circumstance. No family member would be left out. On the other hand, a lack of collective family social and economic resources in general has been consistently suggested by the participants. Although most of the participants have stated that they were aware of their family's needs in a natural disaster, their families had neither the financial capacity nor the social capital available to fulfill the needs. For instance, there was a significant lack of a diversity of communication techniques among family members, availability of family emergency supplies, and accessibility of family social networks which were established by each of the family members.

### E3. Limitations

There are some limitations of this study. All the participants were recruited from the Greensboro area. The data collected from them may not sufficiently be generalized to the Vietnamese refugee groups living in other areas. In particular, interviewing Vietnamese refugees living in areas with more natural disasters, like California, could result in generating different findings. Also, 15 out of the 20 participants were male. Female participants were under-representative in this study. It was a challenge finding female participants who could provide in-depth information on this subject. Compared to the male participants, the female participants appeared to be less experienced and have less coping skills with a natural disaster. The male participants were even struggling with giving the adequate responses to some of the questions during their interviews since this was not a topic that they were familiar with and often thought about. Moreover, information could be lost or distorted during the back and forth interpretation among the



interviewer, interviewee, and interpreter. Meanwhile, although the researcher has constantly tried to bracket her own perspectives from this study, it is still likely to introduce potential personal biases to the data interpretation. It could be particularly true when the researcher herself has an Asian background. For instance, the researcher may bring additional sympathy and empathy to the data interpretation or fall into the participants' thinking pattern.

#### **F. Implications for Practice**

What public health professionals should consider addressing in order to adequately prepare this population, especially for public health preparedness professionals in their future practice are: (1) to recognize and enhance the Vietnamese refugees' existing strengths while preparing them for a natural disaster, for instance, their constructive personal traits, traditional family cohesion, well-built emotional and behavioral family connectedness, and survival skills learned from their previous traumatic experiences; (2) to increase their awareness of a natural disaster as well as disaster coping strategies through delivering tailored and continuous disaster preparedness training or education. Most participants reported that regardless of the content, paper handouts were usually lost; (3) to strengthen the tie between public health preparedness professionals and local refugee resettlement agencies, ethnic organizations, and churches, which have an immediate access to the Vietnamese refugee communities. Through them, the chance of a large-scale dissemination of disaster-related information among this targeted population would be increased. However, the current organizational, financial, and personnel capacity of these agencies and organizations has been very much

challenged. Therefore, building a direct relationship between public health professionals and refugee key informants living in the communities should also be considered; and (4) to create interdisciplinary collaboration and promote cross-disciplinary advocacy for a capacity building so as to aid this targeted population to develop their social support and social networks and improve their socioeconomic status. Currently, the Vietnamese refugees are generally underresourced. Any accomplishment in these aspects will require a long-term endeavor and cooperation from each party involved. As every progress is being made, communication, social capital, and financial capacity could always be the major challenges.

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CHAPTER III

VIETNAMESE REFUGEES' PERSPECTIVES ON THEIR COMMUNITY  
RESILIENCE TO A POTENTIAL NATURAL DISASTER IN THEIR  
HOST COUNTRY

**A. Abstract**

Researchers urged that the concept of community resilience should be integrated into preparing the general population for public emergencies and improving their disaster mental health. The purpose of this study is to explore Vietnamese refugees' shared perspectives on their community resilience to a natural disaster in their host country and identify the factors that either facilitate or impede their community resilience in order to ultimately promote their individuals' disaster mental health. An ethnographic approach was applied. A total of 20 ethnic Vietnamese and ethnic Montagnard refugees living in North Carolina were interviewed before the end of January 2011, using a semi-structured interview guide. Seven dimensions regarding community resilience building were examined, including economic development, institution, infrastructure, community competence, social capital, information and communication, and prior emergency responses. The data were analyzed using both top-down coding and the analysis of themes. Three themes emerged from the data: (1) Greensboro is a good place to live, with many resources including personnel, materials, and facilities to draw on during a natural disaster; (2) Greensboro can be trusted to respond effectively during a natural disaster especially because of the city government; and (3) The refugee community will face



significant challenges (e.g. access to information, language and communication, and ability to connect with and utilize resources and services) in the event of a natural disaster. The study provides a sketch of the participants' current community's nature of resilience and reveals both strengths and limitations of their community's disaster preparedness. Future efforts could be directed to develop effective channels for Vietnamese refugees to access information, make connections between the targeted population and the existing community resources, and facilitate the collaboration among multiethnic groups while encountering a natural disaster.

## **B. Introduction**

Over the past 20-30 years, the concept of resilience has gained a revival of interest among researchers, accompanied by a redirection of focus from alleviating the consequences of stress and adversity to strengthening individual, family, and community resilience in order to overcome the difficulties (VanBreda, 2001). A resilient individual can be characterized as a person who possesses the synthesized and sustained competence (e.g. skills, knowledge, insights, emotions, etc.) of dealing with stress that results from life-time stressful events like public disasters (as cited in VanBreda, 2001; Agaibi & Wilson, 2005; Connor & Davidson, 2003; Connor, 2006). In particular, a considerable number of studies have reported that individual resilience is a predictor as well as a moderator of mental health outcomes in the wake of a stressful/traumatic event (Campbell-Sills et al., 2006; Hjemdal et al., 2006; Deegan, 2005). As an individual living in a community, applying the notion of community resilience, his/her resilience to a crisis

can be empowered through community itself and its member's joint efforts to aid each other and ultimately enhance an individual's health and well-being (Ganor, 2003).

Community resilience has been defined as “the ability of individuals and communities to deal with a state of continuous, long term stress which causes gaps between environmental stimuli and their functional coping behavior”; “the ability to find unknown inner strengths and resources in order to cope effectively”; and “the ability of a community to stick together and to help itself as group as well as families and individuals in its midst” (Ganor, 2003, p. 106). It is also interpreted as the ability of a social system to mobilize, respond to, and recover from disasters (Cutter et al. 2008). Norris and Stevens (2007) concluded from previous research that there were four fundamental capacities related to community resilience, “economic development, social capital, information and communication, and community competence” (p.321), which were nourished by increasing accessibility and availability of resources, expanding social networks and enhancing social support, providing reliable and consistent information resources, and developing collective decision-making skills. Cutter, et al. (2008) categorized community resilience into six domains: resilience of an ecological system, social resilience, economic resilience, institutional resilience, infrastructure resilience, and community competence resilience.

Cole and Buckle (2004) suggested that community resilience had not been formally integrated into planning for public emergencies or disaster responses. Keim (2008) argued that public health professionals need to increase the level of attention given to developing and strengthening human resilience to public disasters, particularly at

the community level. A more resilient community will adapt better during a public crisis. Schoch-Spana (2008) also argued that as the notion of community resilience was introduced to health catastrophes, the general public has no longer been seen only as disaster victims. Instead, they are the well-prepared responders and resilient survivors in disaster management. Moreover, Kimhi and Shamaï (2004) stressed that community resilience was also related to each community member's individual perspectives on whether the community will successfully survive a crisis under the contemporary political climate. They examined the relationship between perceived community resilience and the impact of stress related to Israel's withdrawal from Lebanon. The findings support the development of community-based resilience programs to improve community member's perceptions of their community resilience, and as a result, boost their individual resilience to a threat.

The relationship between a public disaster and the prevalence and incidence of disaster-related mental illness (e.g. post-traumatic stress disorder [PTSD], major depression, and anxiety) has been well-established (Galea, Nandi, & Vlahov, 2005; Jehel et al., 2003; Satcher, Friel, & Bell, 2007). Previous findings have also indicated that the likelihood of the occurrence of a disaster mental disorder is positively associated with an individual's prior accumulative traumatic experiences, a history of psychiatric disorders, and a lack of an early utilization of mental health services (e.g. McNally, Bryant, & Ehlers, 2003; Mills, Edmondson, & Park, 2007; Shevlin et al., 2008).

A majority of refugees have experienced multiple traumas such as famine, torture, forced isolation, and life-threatening diseases in their country of origin and the refugee camps and during their migration (e.g. Gardozo, Vergara, Agani, & Gotway, 2000; Karunakara et al., 2004; U.S. Department of Veteran Affairs, 2002). Consequently, the prevalence of a history of mental illness among refugees is high (e.g. Fazel, Wheeler, & Danesh, 2005). Epidemiological data show that U.S. refugees tended to have more occurrence of PTSD, depression, and anxiety compared to the general population (Barnes, 2001; Carlson & Rosser-Hogan, 1994; Marshall, et al., 2005). Refugees have also been underserved by mental health systems, such as the U.S. mental health system, as a result of a lack of accessible and affordable mental health services and cultural differences between refugees and service providers (Gong-Guy, Cravens, & Patterson, 1991; Hsu, Davies, & Hansen 2004). In summary, while encountering a public disaster in their host country, refugees can be more susceptible to mental disorders. They are “the most vulnerable among us” as it relates to mental health (Lears and Abbott, 2005, p. 22).

Applying the concept of community resilience to improving refugees’ individual resilience to a public disaster and their disaster mental health in their host country, the current study uses a qualitative ethnographic approach to explore Vietnamese refugees’ perspectives on their community resilience to a natural disaster in the U.S. It is also part of a larger study, which examined resilience at three levels: individual, family, and community resilience with the same participants. Both ethnic majority Vietnamese and minority Montagnards who have resettled in Greensboro, North Carolina (NC) were recruited in this study. The study aims to accomplish three objectives: (1) to explore the

Vietnamese refugees' currently shared perspectives on their community resilience to a natural disaster; (2) to identify the factors that either support or impede their community resilience; and (3) to provide public health professionals with implications regarding how they can be adequately prepared to reach this population and improve this population's disaster mental health through enhancing their community resilience.

## **C. Methods**

### **C1. Community**

A community has been conceptualized as a geographic unit meeting basic needs for sustenance, a unit of patterned social interaction, and a symbolic unit of collective identity (as cited in Minkler & Wallerstein, 2002; Hunter, 1975). Greensboro, NC, chosen for the current study, is the largest city in Guilford County and is the third largest city in NC (U.S. Census Bureau, 2000). The current area of Greensboro is approximately 84,320 acres including 5,450 acres of parks, open spaces, and beautification areas, and a full-range of public and private facilities, such as 23 fire stations, 7 central library and branches, 12 recreation centers, and 113,611 housing units (City of Greensboro, 2008, 2009). The 2006-2008 American Community Survey reported that Greensboro had about 242,817 residents with a nearly equivalent number of males and females. Data from the U.S. Census Bureau (2008) indicated that the median family income was about \$54,218 (U.S. = \$63,211) with around 12.9% of families (U.S. = 9.6%) and 18.2% of individuals being below the poverty line (U.S. = 13.2%). It is a multicultural and multiethnic community with about 51.4% whites, 39.5% African-Americans, 3.3% Asians, and 6.9% Latinos. Since 1979, multinational refugee populations (e.g. Vietnamese, Cambodians,

Laotians, Russians, and Bosnians) have been resettling in Greensboro (CNNC, n.d.). Most notably, Guilford County has the largest number of Montagnards outside of Vietnam with more than half residing in the City of Greensboro (CNNC, 2008).

## C2. Sample

Participants were recruited from the Greensboro area through community centers, local refugee resettlement agencies, and English as a Second Language (ESL) classes. Nonprobability snowball sampling and criteria sampling were applied. A total of 20 ethnic Vietnamese majorities and minorities (Montagnards) participated in this study during the period of September 2010 to January 2011.

In Table 4, among these 20 participants, 75% of them were male ( $n=15$ ), and 90% were married ( $n=18$ ). Besides one participant aged 28 years old and two participants aged over 70 years old, 17 participants ranged from 40 to 70. In total, 19 out of 20 identified themselves as either a Christian or a Catholic. Except one ethnic Vietnamese refugee who has already been his community spokesperson but reported that he was resettled in Greensboro for only about 11 months and a few days by the time of his interview, the rest of the participants have been residing in Greensboro for one to five years or above. However, the unemployment rate among the participants aged 70 years old or younger was high (67%). In this paper, pseudonyms were used for each participant to help protect their identities.

## C3. Instruments

A semi-structured interview guide containing 25 questions with 12 primarily open-ended questions was used to elicit the participants' perspectives on their

community's resilience to a natural disaster. All the questions were designed under an assumption of an upcoming natural disaster like a tornado, winter storm, hurricane, or flood. Photographs obtained from the National Geographic Society and the National Weather Services depicting the scene and consequences of a natural disaster were shown and explicated to the participants based on their understanding of a natural disaster.

Table 4: Study Participants' Overall Characteristics

| Characteristics         | Number | Percentage |
|-------------------------|--------|------------|
| Gender                  |        |            |
| Male                    | 15     | 75%        |
| Female                  | 5      | 25%        |
| Marital status          |        |            |
| Married                 | 18     | 90%        |
| Single/Separated        | 2      | 10%        |
| Age                     |        |            |
| <40                     | 1      | 5%         |
| 40-70                   | 17     | 85%        |
| >70                     | 2      | 10%        |
| Religion                |        |            |
| Yes                     | 19     | 95%        |
| No                      | 1      | 5%         |
| Language                |        |            |
| Vietnamese              | 10     | 50%        |
| Jarai/Rhade/Bunong/Koho | 10     | 50%        |
| Employment              |        |            |
| Yes                     | 6      | 30%        |
| No                      | 14     | 70%        |
| Years in Greensboro     |        |            |
| <1                      | 1      | 5%         |
| 1-2                     | 7      | 35%        |
| 2-5                     | 7      | 35%        |
| >5                      | 5      | 25%        |
| Total                   | 20     |            |

Drawn from the six dimensions of community resilience building, identified by Cutter et al. (2008), four dimensions were selected as most relevant to this study and

contributed to the development of the interview guide: (1) economic resilience including employment and wealth generation, (2) institutional resilience including emergency services and emergency migration and response plans, (3) infrastructure resilience including lifelines and critical infrastructure, residential household stock, and transportation networks, and (4) community competence resilience including community understanding of risk factors, counseling services, community health and wellness, and quality of life. Another two dimensions, (1) social capital including effective organizational links, social supports, social influence, and place attachment, and (2) information and communication including communication skills and infrastructure, trusted sources of information, and responsive media were informed by the work of Norris and Stevens' (2007). The last dimension included the participants' perspectives on their community's prior emergency responses. The final interview guide was validated by nine people including both academic and non-academic refugee experts, refugee key informants who can speak fluent English, a Vietnamese interpreter, and the coauthors of this paper.

#### C4. Procedures

The current study was approved by the Institutional Review Board at the University of North Carolina at Greensboro. Consent forms, translated into Vietnamese, were explained to participants prior to obtaining their signature. A total of 20 refugee participants were interviewed in their homes, community centers, or local restaurants. A complete interview lasted about an hour and a half to two hours which contained the questions related to individual and family resilience as well. The time spent responding to



the questions only related to community resilience was approximately between 30 to 60 minutes. A professional interpreter was present at every interview. The City of Greensboro was defined as the community in this study to each of the participants at the beginning of their interviews. All the interviews were digitally recorded. Supplemental data were collected from the interviews with refugee service providers, on-site observations, and informal conversations with the Vietnamese interpreters. These data served as the evidence for verifying the primary data as well as supporting their interpretation.

#### C5. Data Analysis and Interpretation

The audio data were transcribed in English, which were analyzed by ATLAS Ti version 6.0 (ATLAS Ti Scientific Software Development GmbH, Germany). An ethnographic approach guided the analysis, in which the researchers describe and interpret the “shared and learned patterns of values, behaviors, beliefs, and languages of a cultural sharing group” (Creswell, 2007, P. 69). In this study, the data were analyzed for a portrait of the commonalities among the participants, and both the top-down coding and the analysis of themes were applied to establish the coding systems. The initial codes were generated from the primary data and then organized into seven categories. Six out of seven categories/indicators were selected from the existing literature, which has been demonstrated in the development of the instruments. These seven categories included economic, infrastructure, social capital, communication and information, emergency planning and training, community competence, and prior community emergency responses. The data were interpreted to respond to the three objectives of this study stated

earlier. As the data cross these seven categories were analyzed, three broad themes that spanned across these categories emerged.

#### **D. Results**

Ethnic Vietnamese and Montagnard participants portrayed an image of Greensboro that was rich in resources, was a good place to live, and was trusted to do what it could for the population in case of an emergency, such as a natural disaster. Nevertheless, significant challenges were cited as it relates to the needs of refugee populations during an emergency situation.

##### **D1. Greensboro is a Good Place to Live, with Many Resources to Draw on during a Natural Disaster**

Participants were asked their opinions about how the city may be able to respond to or recover from a natural disaster. Their responses indicated a view of the city as resource rich and likely to recover quickly, making statements such as “Yes, they are able to do that because they have a lot of money,” “Maybe because Americans are rich, right?” and “America is the biggest country in the world (financially.) They have the money to prepare for all these things.”

In general, compared to the place where they lived in Vietnam, the participants believed that Greensboro was a much better place for them to be settled down. “The environment is (does) not (have) much noise. Because I was living in a city (in Vietnam), we got a lot of noise;” houses are “safe” and “pretty,” the grocery stores are “beautiful...I can find any kind of food here;” and the local media broadcasted news quickly. The participants stated that people in Greensboro lived “together peacefully and in a

harmony,” and they loved each other, talked to each other, and liked to be together. They did not “seem to have a big problem.” An was happy that “some Montagnards are able to communicate with Americans....some are able to communicate with Vietnamese. They have conversations with each other.” Chi thought that American people in this community were very friendly because “each time, I went to the grocery store, they saw us, they waved hands and they said hi to us.” Danh agreed that Americans here were really good since “even if I am a refugee and I didn’t know them, when I was walking on the streets, they said hi to me.” Giang explained that different ethnic population groups living in Greensboro had been trying to communicate well with each other. However, sometimes because of the language barriers, they had to use sign language.

It was common that multiethnic groups, such as Vietnamese, Montagnards, Whites, African-Americans, and Mexicans to reside in the same neighborhood. Also, the participants have concluded that most residents in the City of Greensboro communicated with each other through meeting at local churches, workplaces, and community centers, making phone calls, or chatting online. For the participants particularly, they would also regularly see each other in their grocery stores, English as a second language classes, and senior resources centers, or gather in each other’s houses located in the same or an adjacent neighborhood. For instance, Toai said, “Sometimes we meet at the market or a grocery store and we talk. We meet at a grocery store. If I know them, we (will) talk. If I don’t, we (will) just say hi.” Responses revealed an interest in organized social gatherings. They often would make phone calls and schedule a time to meet in advance.

Views toward the health care system were generally positive, although challenges related to access and communication were raised and will be discussed later. Uoc received good services from the local health department four years ago when she first came to the United States. Tho thought that his health needs would be very well fulfilled by the current health system. Danh stated, “The hospital here is very good. The people are very nice to me. They say hi (and) thank you to me.” De also described his experience, “The nurse, the doctor, and the workers in the hospital very respect the clients (patients). They treated them all equally.” Minh made a comparison between the health services that he received in Greensboro and the city where he lived in Vietnam,

The doctors over here are really good and very patient. For example, after my wife finished (seeing the doctor), the doctor pulled her out of the chair for someone else to see. In Vietnam, the doctor stood on the third floor and didn’t do anything. The doctor over there didn’t help anything. He stood there and looked at you. He didn’t care what happened to you. Over here, the doctor helped her out, held her, and put her in (back to) the chair...In Vietnam, the first time I went to the city, the doctor and the hospital, the first thing (for them) was to ask for money. No money, they won’t let you in.

In addition, the participants discussed the capacity of mental health services in Greensboro after a natural disaster. Most of them believed that there were many “intelligent persons” in the city, and the city government has already prepared “doctors for us if something happens...and set up the money for this, for this, for this...” They also thought that resources in other places can always be relocated so as to support the services in Greensboro.

## D2. Greensboro can be Trusted to Respond Effectively during a Natural Disaster

If a natural disaster happened to Greensboro, the participants had no doubt that they city would have both “man power” and “machine power” to respond to and recover from the disaster. They further explained that the city would provide its residents with emergency food, water, medicine, blankets, salt, utilities, and shelters. Fire departments, police departments, hospitals, churches, and non-profit organizations would all work collaboratively.

The participants reflected a great deal of faith in the American government. They thought that the government would take full financial responsibility while experiencing a natural disaster. They stated, “I guess, I hope, I trust the government,” as well as compared to the government in Vietnam, they believed that the U.S. government was much stronger and more powerful and had more intelligent people. A little detailed evidence was provided by Truc and Bao based on their previous observations. Truc thought that Greensboro often repaired the roads and streets so the city should be financially capable of responding to a natural disaster. Bao thought that after 9.11, New York City was quickly rebuilt so the U.S. government was financially prepared to recover from a catastrophe.

A considerable number of the participants believed that Greensboro had already had a plan for a natural disaster. They elucidated several reasons. First, they understood this as a common sense. As Hung mentioned that most countries already had a plan if something was going to happen, Thu thought that he knew this for sure that every city had an emergency plan for a disaster but he was not sure about how well the city had

been prepared. De assumed that Americans were most likely to have an emergency plan. Bao mentioned that the city should be “always looking for a better way to do things and prevent it (from) happen(ing) in the future. You always learn and you always prepare and always find a better way. Be ready for any situation happen(s).” Second, since the city government would be warned of a natural disaster in advance by its mass media and well-educated people, they should have enough time to come up with a plan and get ready for it. Third, as De stated that “another thing is the financial. America is the biggest country in the world (financially.) They have the money to prepare for all these things.” Fourth, the participants believed that “every city takes care of its own people, cares about its citizens,” and this was the city government’s duty to plan ahead so as to protect its people. Fifth, based on their daily observations on the other events, the participants concluded that Greensboro had an emergency plan for a natural disaster.

Thanh: I trust the government. For example, some gang people here, they were selling drugs. The police found out. The other police came here quickly. When the fire happened, the fire truck, the ambulance, and the police, they came quickly. So I trust and I believe the government has a plan and they will respond quickly.

Danh: Because of a lot of decisions around here, I believe the government already prepares. A lot of people live here so the government already prepares to help them. For example, last time I went to DMV. Most people had to pay 10 bucks for the ID but I am old so people gave it to me for free. Yes, I think so. It is like the students. The school bus take(s) them to school. They teach them and feed them. After the school, they send them home.

Sixth, the participants had much confidence in the city government and its organizations’ leadership. Uoc was certain that the city had a plan for a natural disaster because the American government was civilized. Duc thought that the city had “a lot of agencies,

water agency, electricity agency, every branch, we have, they are ready to help the people.” Minh illustrated,

The Church World Services will come and help me...Yes. It is related to the government. Everything here belongs to the government. All the orientation services, the Church World Services, and the Lutheran Family Services belong to the government...I am just only thinking the government has already had a plan. In case I need, the government will try to help me.

Most participants believed that the city had the infrastructure to overcome a natural disaster and meet their emergency needs. Besides this, the participants added more evidence with respect to their belief in the overall community competence to survive a natural disaster. They were convinced that the city government would be a good responder, and under its leadership, each city functional unit would be mobilized quickly to react to the disaster. They thought that they could also utilize the city’s human resources as well as the natural resources to respond, such as “Tree can block the water and block the tornado.” While during the recovery, the participants believed that besides receiving the continuous services from the government, people in this city would also support each other to rebuild the city and their homes. Tho believed, “Human beings help each other. You help me now, so maybe later on I may help you,” He and Ho.c also agreed that people in other places would come and help as Ho.c said, “If Greensboro is completely destroyed, we have someone from Raleigh, from Texas, Georgia, everywhere come to help us.” Moreover, the participants assumed that there was a built-in system in Greensboro to facilitate the city’s recovery. Xuan explained that there was a hierarchical operating system “from the low level people to the high level people.”

The participants observed prior community emergency responses at least once or twice, such as a snow storm, an electricity outage, or a house fire. Compared to their disaster experiences in Vietnam, a majority of their overall impression on Greensboro's reactions was favorable. They thought each unit in this city was well coordinated and they restored the functions of the city's infrastructure timely. Tro.ng witnessed a community house fire, and he was amazed by how fast the fire truck came to the scene and put out the fire. Bao experienced that a power outage twice in his area but both times had it back within an hour. Specifically, the participants described how the city's responses to a snow storm varied. For instance, Thu thought the city's response to a snow storm was not desirable. However, To.ai watched the "machine pushed the snow," and he saw, "In some places, they did it right away but in some places, it took longer. Small streets, nobody cleaned them...People cleaned the parking lot right away." Truc saw the ambulance and fire trucks were running on the street shortly after a snow storm. Both Uoc and Ho.c illustrated,

They used the trucks, (spread) the salt, they cleaned the streets...I feel it was almost quick. If we use hands by ourselves, it will be very difficult. But they used the trucks, easier and faster...If they saw the branches of trees were broken, they tried to cut the trees and clean the streets.

First of all, the government informed the people so they knew the disaster would come. The second one, they used their resources to help the people, like cars...They cleaned (the streets) with the trucks and they put the salt...They (were) divided. These (people) went to these streets; those people went to those streets... If the snow came again, they would do it again.



### D3. The Refugee Community will Face Significant Challenges in the Event of a Natural Disaster

Participants revealed areas where they expressed concerns regarding the ability of the city to respond to their specific needs, issues of access to services, and challenges related to communication within their own ethnic communities. Chief among these concerns were issues related to access to information, language and communication, and ability to connect with and utilize resources and services.

In case of a public emergency like a natural disaster, a majority of the participants believed that their American neighbors would receive a severe weather warning through TV, radio, newspaper, and internet. Ho.c also made an argument that the American people had the knowledge to predict a forthcoming natural disaster because “Someone teaches them... Before, they already knew. Someone taught them the science. They’ve already known the science. But we don’t know. They know (this) from the knowledge, the science.” However, within their own ethnic group, the communication channels would be different. They clearly stated that they barely listened to a radio or read a newspaper to find out an approaching natural disaster. They may receive a weather warning through TV but they doubted how many ethnic Vietnamese and Montagnards living in Greensboro had TVs at home or had local weather channels. Duc said, “I hope all the Montagnard families have the cable and TVs to see news. I hope.” They were expecting that people, such as friends, neighbors, and coworkers, who had an immediate access to this type of information, could inform them. They were also expecting their local churches, sponsors, and refugee organizations to use their networks to reach them in

the face of such an emergency. Danh confirmed, “Just some. Some have (TVs). Some don’t. Like me, I just came here and I don’t have it,” and sometimes he went to the church, so if something like this happened, they would let him know. He said, “If I go to the church, whoever I know, friends will talk to each other and communicate with each other. And let them (or me) know if something will happen.”

Although they generally agreed that interactions in this community seemed adequate, several expressed their frustrations in terms of acculturating themselves into the mainstream and connecting with other ethnic groups.

Thanh: You know God creates the human beings. We are equal and we are not supposed to have conflicts, even if in Greensboro. But unfortunately, because we have different tribe and different people and different languages, we don’t know how to communicate with each other. It makes the communication very difficult for us. Because of these difficulties, we are not so quite close to each other. Like you, you speak with us in English, like me, I don’t know English. So it makes us different. That makes the problem among people to understand each other, to talk to each other, to be happy, to say hello, or to live together. The language differences, the cultural differences.

Reports of interactions with health care providers and social services reveal concerns regarding the ability to effectively communicate due to language barriers. While participants were satisfied with their community hospitals and local health department, they described the Vietnamese refugees’ limited access to the health services because of the language, medical insurance, and transportation barriers in an emergency. For instance, a majority of the participants had to ask their pastors, friends, children, and resettlement agencies to go to the hospitals with them as an interpreter or make an appointment for them. They agreed that the communication with doctors and nurses was

fairly complicated, and it was not possible for them to handle all these by themselves. They also had concerns about how they could afford the health services if they did not have the medical insurance.

A majority of the participants did not have a clue about how organizations or social networks served people living in the broader Greensboro community.

Approximately two-thirds of the participants claimed that they knew or heard of their own ethnic organizations/groups, such as Montagnard Dega Association and Montagnard/Vietnamese churches, as well as refugee resettlement agencies and senior resource centers. However, mostly, they did not keep these organizations/groups and agencies' contact information and cannot identify who were the leaders. Although the participants clearly stated that if there was an emergency such as a natural disaster, they would like to contact these organizations and agencies, the participants had the concern about their capacity of meeting their clients' urgent needs. Duc explained that their help was very limited, and they only dealt with "the paper work or something else like money or disaster, they cannot do it...They don't have anything either." Truc agreed,

We don't know their job (regarding) if they can help in a disaster. They only had few people take people to hospitals. We don't think (whether) they may help if something happens...They only have one or two people work(ing) there. They don't work for a disaster. We need but they cannot help us.

In the meantime, they expressed the high demands of these organizations and agencies, especially during a disaster, among the refugees. An thought that Montagnards needed an organization to unite all the Montagnards in Greensboro. Also, most participants believed that they could request the leaders of these organizations/agencies to

be the representative for them to communicate with the government authority and the people outside their group. They preferred to have their own seniors as their leader.

More than half of the participants also stated that they more or less have been exposed to some informal emergency training including preparing for a natural disaster. They received the training through their ESL classes, churches, ethnic organizations, and refugee resettlement agencies in the City of Greensboro. The training was delivered by having an informal conversation, distributing simple handouts, giving short presentations, and showing video clips. However, most of them only received this type of informal training once or twice over the past several years, and this was not provided on a regular basis. They had already forgotten the major part of the information. The participants underlined that their people needed more training in order to prepare for and survive a natural disaster. They preferred that the training could be delivered in person or in both pictures and words. The information should also be integrated into the formal high school or middle school education.

## **E. Discussion**

Haines et al. (1981) has already emphasized the importance of community to Vietnamese refugees during the early 1980s. They described that the Vietnamese refugees regarded community as a place with “abundance of mutual aid association of various kinds” (p.314). Built upon the existing literature, Norris and Stevens (2007) also explicated how community resilience, including the capacities of having economic development, trusted and responsive information channels, effective organizational linkages, stabilized social support, and equal resources allocation, was positively

connected with an individual victim's resilience to mass trauma and the five essential elements of mass trauma interventions. These five elements consist of safety, calmness, efficacy, hope, and connectedness, which are crucial to promoting an individual's disaster mental health (Norris & Stevens, 2007).

The current study presented a brief overview of the participants' shared understandings of their community's resilience, which provides an epitome of the resilience of the City of Greensboro. By comparing to the participants' country of origin, the participants thought that they had already lived in a much more prosperous place, and normally, in Greensboro, there would be lots of resources to draw on during a natural disaster. And they already heard that America was a financially strongest country with lots of "intelligent" people prior to their arrival. For most of the time, they indicated that Americans and other ethnic populations living in this city were very friendly to each other as well as to them. People with diverse ethnic backgrounds were encouraged to communicate with each other by using all kinds of means. Simply based upon their individual experiences and observations, they believed that Greensboro was competent in successfully surviving a natural disaster effectively. They believed that the city's infrastructure such as transportation, manufacturing, hospitals, police departments, and fire departments was well-equipped. Especially in a disaster, they assumed that different city units would respond collaboratively and effectively, while this assumption was made actually beyond the scope of their current knowledge and they were not able to provide detailed and solid evidence to support their argument. Importantly, they had much confidence in the U.S. city government no matter what could be their underlying reasons.

Although they did not have the supporting data, they presumed that the government here was operated similar to many governmental authorities in Asia, which was hierarchical. The Greensboro city government was supposed to mobilize each single unit in this city from the top to the bottom in a public crisis and be fully responsible for meeting its residents' emergency demands. They believed that Greensboro had already planned ahead since they would not let their people die, and the relationship between the city and its residents would be like "father and son". Although the high expectation on the government preparedness could bring the participants hope in a disaster situation, it could also add a potential thread to the participants' motivation of both their individual and family preparedness. Overall, most participants were satisfied with their community's previous emergency responses. However, voices were also raised in opposition. Some participants thought they had not experienced a severe natural disaster in Greensboro yet. Therefore, it was hard for them to predict how successfully the city would react to a severe natural disaster in the future.

Linking back to the participants' own ethnic community, challengingly, unlike a majority of other citizens living in Greensboro, the Vietnamese refugees had limited access to information. Mostly because of their language and financial barriers, they were unable to rely on regular mass media like television, internet, radio, and newspaper. They depended on receiving information and services from their local churches, ethnic organizations, and refugee resettlement agencies although they had much doubt on these organizations/agencies' actual capacity of meeting their people's emergency needs. Whether the Vietnamese refugees would receive the information from these

organizations/agencies in a timely manner during a natural disaster remains uncertain. The Vietnamese refugees' ineffective and restricted information resources impaired their ability to have an objective overall perspective on their current community capacity of responding to a public emergency, such as a natural disaster, as well as access critical messages like a severe weather warning. This could further explain the reason why in this particular study, although the concept of community had been repeatedly defined and emphasized to the study participants prior to their responding to the interview questions, which was the City of Greensboro, the participants often drew back to talk about the resilience of their own ethnic sub-community, which could be more familiar to them. Nevertheless, the Vietnamese refugees were encountering the difficulties in rapidly locating and accessing local social services as well as health services due to language insufficiency and unavailability of transportation and medical insurance. Also, the participants expressed that the Vietnamese refugees did not have much knowledge of how the city delivered emergency training to its general populations, but they reported that they and some other Vietnamese refugees had been exposed to some informal training at times, which did not seem to be adequate and effective enough. As a sub-community in Greensboro, the Vietnamese refugee community's current challenges in overcoming a natural disaster more or less reflected the city's challenges of its overall disaster planning and preparedness.

#### E1. Limitations

In terms of the study itself, there are several limitations. Although this study has been inclusive of both majority and minority Vietnamese refugees living in the city of

Greensboro with an age range from 28 to 77 years old, there were a total of 20 participants with 15 out of 20 being male. The results of this study may not be sufficient enough to speak for Vietnamese refugees resettled in broader Greensboro or other communities. A loss or distortion of information may also occur while the questions and responses were interpreted back and forth among the participants, interpreters, and researcher. As the data were interpreted, the researcher's personal bias may unavoidably be introduced. For instance, the researcher also came from Asia and is as an alien residing in the U.S. The researcher may think and experience similarly to the participants. It could bring both empathy and sympathy into the data interpretation. However, the data has been presented as original as they could be.

#### **F. Implications for Practice**

The participants' perspectives on their current community's resilience particularly indicated several potential directions for public health professionals to prepare Vietnamese refugees for a natural disaster in the future. These directions could include: (1) to help Vietnamese refugees manage their current expectations on their community's competence of responding to and recovering from a variety of scales and types of natural disasters. The participants in this study have presented a lack of an overall estimation of the city's actual economic situations, capacity of infrastructure, and availability of social support and social networks but they simply believed that no matter what, the city would satisfy everyone's emergency needs because the city would not let its people die. More tailored information should be delivered to this refugee population though increasing their communication channels; (2) to inform and navigate the targeted population to the



existing community resources. The study participants had limited knowledge of identifying and locating the community resources that could be utilized for a public crisis. Other than asking for assistance from their already overwhelming local refugee organizations/agencies, the participants were not fully aware of the existence of the other community resources and their eligibility for receiving these support; (3) to provide the targeted population with materials such as visuals, charts or graphs accompanied with explanations regarding how the Greensboro city government and other entities in this community are administrated and operated on a daily basis as well as in a disaster. The study participants expressed a great deal of faith in the U.S. government, and they assumed that a hierarchical operating system was universal, and the government was in charge of all the facilities, properties, and services in the city; (4) to enhance the partnership between the local Vietnamese refugee community and their organizations/agencies in order to expand the Vietnamese refugees' social support and social network especially in the face of a public disaster. The findings have suggested that the participants thought that they would heavily depend on these local organizations/agencies to be their representatives and gatekeepers for most of the time but they were not well connected with these organizations and agencies; and (5) to prepare and facilitate community multiethnic population groups' collaboration for a public emergency like a natural disaster. It is especially important for the current community to learn how to cross each ethnic sub-community's boundary during a public disaster in order to share resources and develop mutual benefits. In this scenario, public

health professionals would more likely serve as a bridge between the Vietnamese refugees' community and the broader Greensboro area.

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## APPENDIX A. CONSENT FORMS

### UNIVERSITY OF NORTH CAROLINA AT GREENSBORO **CONSENT TO ACT AS A HUMAN PARTICIPANT** (Consent Form for Refugee Participants in English)

**Project Title:** Assessing Individual, Family, and Community Resilience to a Natural Disaster among Vietnamese Refugees in NC: An Ethnographic Study

**Principal Investigator:** Dr. Robert E. Aronson

**Student Researcher:** Huaibo Xin

**Participant's Name:**

**What is the study about?** This is a research project. The purpose of this study is to assess the individual, family, and community abilities to respond to a natural disaster (e.g. floods, severe storms, and tornados) among Vietnamese refugee adults living in Greensboro, NC. The importance of doing this is to reduce Vietnamese refugees' vulnerabilities to a natural disaster in their host country and adequately prepare public health professionals to reach and serve this population in the event of a natural disaster. Eventually, this study will be able to serve the efforts of improving U.S. Vietnamese refugees' mental health while experiencing a natural disaster.

**Why are you asking me?** As a Vietnamese refugee adult resident who has been living in Greensboro for more than one year and is competent to answer our questions voluntarily, you are invited to join the study.

**What will you ask me to do if I agree to be in the study?** If you agree to participate in this study, you will be asked to have a face-to-face interview with the student researcher (me). The interview questions will be mostly related to assessing your individual, family, and community abilities to respond to a natural disaster (e.g. floods, severe storms, tornados, hurricanes, and earthquakes). The interview may be conducted in your community center, church, or your home based on your preference. At the beginning of the interview, you will be asked to describe any of the natural disasters that you have experienced. Then you may be asked whether you would like to see some photos depicting a natural disaster (e.g. severe storms, floods, tornados, hurricanes, and earthquakes) or its destruction. A professional interpreter will be present and provide you with interpretation through the entire process. Each interview may last about an hour and a half.

**Is there any audio/video recording?** Each interview will be recorded by using a digital recorder. Because your voice will be potentially identifiable by anyone who hears the recording, your confidentiality for things you say on that recording cannot be guaranteed although the researcher will try to limit access to the recording as described below.

**What are the dangers to me?** The only risk involved in this study will be the possibility that you may feel stressful while talking about a natural disaster or reviewing some pictures describing a natural disaster and its destruction. If this happens to you, you may be suggested to be provided with a mental health referral such as a psychological counseling. There is no physical component to this study, so there is no risk of physical injury.

If you have any concerns about your rights, how you are being treated or if you have questions, want more information or have suggestions, please contact Eric Allen in the Office of Research Compliance at UNCG at (336) 256-1482. Questions, concerns or complaints about this project or benefits or risks associated with being in this study can be answered by **the student researcher (Miss Huaibo Xin) who may be contacted at 336-558-1572 or the principal investigator (Dr. Robert Aronson) who may be contacted at 336-356-0119.**

**Are there any benefits to me for taking part in this research study?** While you will not receive any personal benefits from participating in the study, you may find satisfaction in knowing that the information may be helpful to your community.

**Are there any benefits to society as a result of me taking part in this research?** Through this study, the current factors that support or impede Vietnamese refugees' individual, family, and community abilities to respond to a natural disaster will be identified. Implications will be made to the public health preparedness professionals so that they can be adequately prepared to reach you and other Vietnamese refugees and reduce your vulnerabilities in the event of a natural disaster. Eventually, this study will be able to serve the efforts of improving your and other U.S. Vietnamese refugees' mental health during or after a natural disaster.

**Will I get paid for being in the study? Will it cost me anything?** You will get paid with a \$20 gift card at the end of the interview. There is no cost for participating in this study.

**How will you keep my information confidential?** Your name will not be recorded by a digital recorder. The audio data will be erased from a digital recorder right after they are transcribed and saved on the student researcher's computer. The principal investigator and the student researcher will be the only persons having the password to access this computer. The consent form with your signature will be locked in a cabinet placed in the principal investigator's office on UNCG campus. All information obtained in this study is strictly confidential unless disclosure is required by law.

**What if I want to leave the study?** You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data which has been collected be destroyed.



**What about new information/changes in the study?** If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

**Voluntary Consent by Participant:** By signing this consent form you are agreeing that you read it, or it has been read to you, and you fully understand the contents of this document and are openly willing to consent to take part in this study. All of your questions concerning this study have been answered. By signing this form, you are agreeing that you are 18 years of age or older and are agreeing to participate in this study described to you by Huaibo Xin.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**TRƯỜNG ĐẠI HỌC NORTH CAROLINA TẠI GREENSBORO**  
**GIẤY ĐỒNG Ý LÀM ĐỐI TƯỢNG NGHIÊN CỨU**  
**(Dành Cho Người Tị Nạn Tham Gia Nghiên Cứu)**

**Đề Tài Dự Án: Đánh Giá Khả Năng Ứng Phó Thiên Tai Của Các Cá Nhân, Gia Đình và Cộng Đồng Tị Nạn Ở North Carolina: Một Cuộc Nghiên Cứu Dân Tộc Học**  
**Chủ Nhiệm Đề Tài: Tiến Sĩ Robert E. Aronson**  
**Nghiên Cứu Sinh: Huaibo Xin**  
**Tên Người Tham Gia:**

**Cuộc nghiên cứu này sẽ tìm hiểu đề tài gì?** Đây là một dự án nghiên cứu. Mục đích của cuộc nghiên cứu này là đánh giá khả năng ứng phó của các cá nhân, gia đình và cộng đồng đối với thiên tai (thí dụ như lũ lụt, bão lớn, bão lốc xoáy, v.v...) trong số tị nạn Việt Nam trưởng thành sống ở Greensboro, North Carolina. Đây là đề tài quan trọng, nhằm mục đích giảm nguy cơ các tị nạn Việt Nam bị tổn thương khi gặp thiên tai ở nước định cư, và giúp các chuyên viên y tế công cộng chuẩn bị đầy đủ để có thể tiếp cận và phục vụ cho nhóm dân số này trong trường hợp thiên tai. Cuối cùng là cuộc nghiên cứu này sẽ góp phần vào những nỗ lực hỗ trợ sức khỏe tinh thần của tị nạn Việt Nam ở Mỹ trong trường hợp gặp thiên tai.

**Tại sao tôi được mời tham gia?** Quý vị được mời tham gia vì quý vị là người tị nạn Việt Nam trưởng thành đã sống ở Greensboro hơn một năm và có đủ năng lực để tự nguyện đồng ý trả lời các câu hỏi của chúng tôi.

**Nếu đồng ý tham gia nghiên cứu thì tôi sẽ được yêu cầu làm những gì?** Nếu đồng ý tham gia nghiên cứu thì quý vị sẽ được yêu cầu dự một cuộc phỏng vấn trực tiếp với nghiên cứu sinh (là chính tôi). Các câu hỏi phỏng vấn chủ yếu liên quan đến việc đánh giá khả năng ứng phó thiên tai (thí dụ như lũ lụt, bão lớn, bão lốc xoáy, động đất, v.v...)

của quý vị cũng như gia đình và cộng đồng của quý vị. Cuộc phỏng vấn có thể được thực hiện ở trung tâm cộng đồng, nhà thờ, hoặc nhà riêng của quý vị, tùy theo quý vị thích chỗ nào hơn. Vào lúc bắt đầu phỏng vấn, quý vị sẽ được yêu cầu miêu tả các trận thiên tai đã từng trải qua, nếu có. Sau đó tôi có thể hỏi xem quý vị có đồng ý xem qua hình các trận thiên tai (thí dụ như bão lớn, lũ lụt, bão lốc xoáy, và động đất) hoặc cảnh tàn phá do thiên tai hay không. Một thông dịch viên chuyên nghiệp sẽ có mặt để giúp thông ngôn cho quý vị trong suốt cuộc phỏng vấn. Mỗi cuộc phỏng vấn có thể kéo dài khoảng một tiếng rưỡi.

**Cuộc phỏng vấn có được quay phim video hay thu âm không?** Mỗi cuộc phỏng vấn sẽ được thu vào máy thu âm kỹ thuật số. Chúng tôi không thể bảo đảm giữ kín hoàn toàn những gì quý vị nói vào máy thu âm vì những người nghe bằng thu có thể nhận ra giọng nói của quý vị. Tuy nhiên, nghiên cứu viên sẽ cố gắng giới hạn số người được phép nghe bằng thu theo những cách được miêu tả dưới đây.

**Cuộc nghiên cứu này có gây nguy cơ gì cho tôi không?** Cuộc nghiên cứu này chỉ có một nguy cơ là có thể gây căng thẳng cho quý vị khi phải nói chuyện về một trận thiên tai trước đây hay xem hình về các trận thiên tai và cảnh tàn phá. Nếu thấy căng thẳng, quý vị có thể được giới thiệu đến chuyên viên về sức khỏe tinh thần, thí dụ như dịch vụ tư vấn tâm lý. Vì cuộc nghiên cứu này không liên quan đến cơ thể nên quý vị hoàn toàn không có nguy cơ nào bị thương tích cơ thể.

Nếu quý vị có quan ngại nào về các quyền của mình hay về cách được đối xử, hoặc nếu có thắc mắc, muốn xin thêm thông tin hay góp ý kiến, xin vui lòng liên lạc với Eric Allen ở Phòng Phụ Trách Sự Tuân Thủ Các Quy Định Nghiên Cứu (Office of Research Compliance) của Đại Học North Carolina tại Greensboro theo số (336) 256-1482. Nếu có thắc mắc, quan ngại hay khiếu nại liên quan đến dự án này hoặc muốn được giải thích về các lợi ích hay nguy cơ có thể xảy ra khi tham gia nghiên cứu, xin liên lạc với **nghiên cứu sinh (Cô Huaibo Xin) theo số 336-558-1572 hoặc chủ nhiệm đề tài (Tiến Sĩ Robert Aronson) theo số 336-356-0119.**

**Việc tham gia nghiên cứu này có mang lại lợi ích gì cho tôi không?** Cho dù quý vị không hưởng lợi ích trực tiếp nào từ việc tham gia nghiên cứu này, nhưng có thể quý vị sẽ thấy hài lòng vì thông tin do quý vị cung cấp có thể giúp ích cho cộng đồng của mình.

**Việc tôi tham gia nghiên cứu này có mang lại lợi ích gì cho xã hội không?** Qua việc nghiên cứu này, chúng tôi sẽ xác định các yếu tố hiện tại đang hỗ trợ hay cản trở khả năng ứng phó thiên tai của các cá nhân, gia đình và cộng đồng người tị nạn Việt Nam. Các kết quả rút được sẽ được thông báo tới những chuyên viên y tế công cộng phụ trách việc chuẩn bị ứng phó, để họ có thể chuẩn bị giúp quý vị và những tị nạn Việt Nam khác khỏi bị tổn thương trong trường hợp gặp thiên tai. Cuối cùng là cuộc nghiên cứu này sẽ góp phần vào các nỗ lực hỗ trợ sức khỏe tinh thần của quý vị và các tị nạn Việt Nam khác ở Mỹ trong hay sau khi gặp thiên tai.

**Tôi có được trả thù lao cho việc tham gia nghiên cứu này không? Tôi có phải trả chi phí gì không?** Quý vị sẽ được tặng phiếu quà tặng trị giá \$20 khi kết thúc cuộc phỏng

vấn. Quý vị không phải trả chi phí nào khi tham gia nghiên cứu.

**Thông tin của tôi sẽ được bảo mật bằng cách nào?** Chúng tôi sẽ không đọc tên họ của quý vị vào máy thu âm kỹ thuật số. Thông tin thu âm sẽ được xóa bỏ khỏi máy thu âm kỹ thuật số ngay sau khi được ghi thành biên bản và lưu trên máy tính của nghiên cứu sinh. Chủ nhiệm đề tài và nghiên cứu sinh là hai người duy nhất có mật khẩu để vào máy tính này. Giấy đồng ý mà quý vị ký tên sẽ được lưu trong một tủ hồ sơ có khóa ở văn phòng của chủ nhiệm đề tài tại Đại Học North Carolina Greensboro. Tất cả các thông tin thu thập được trong cuộc nghiên cứu này sẽ được bảo mật nghiêm chỉnh, trừ phi phải tiết lộ thông tin theo quy định của luật pháp.

**Nếu tôi muốn rút khỏi cuộc nghiên cứu thì sao?** Quý vị có quyền từ chối tham gia hay rút khỏi cuộc nghiên cứu vào bất cứ lúc nào, và sẽ không bị phạt nếu quyết định như vậy. Việc rút khỏi cuộc nghiên cứu sẽ không ảnh hưởng gì đến quý vị. Nếu quyết định rút khỏi nghiên cứu, quý vị có thể yêu cầu chúng tôi phá hủy các thông tin về quý vị đã thu thập được.

**Nếu có thông tin mới/thay đổi nào trong cuộc nghiên cứu này thì sao?** Nếu có bất cứ thông tin quan trọng mới nào liên quan đến cuộc nghiên cứu và có thể khiến cho quý vị đổi ý về việc tiếp tục tham gia nghiên cứu, chúng tôi sẽ báo cho quý vị biết về thông tin này.

**Lời Tự nguyện Đồng Ý của Người Tham Gia Nghiên Cứu:** Khi ký tên vào giấy đồng ý này, quý vị đồng ý rằng quý vị đã tự đọc giấy hoặc đã nghe người khác đọc cho mình, rằng quý vị hiểu hết nội dung và tự nguyện đồng ý tham gia vào cuộc nghiên cứu này. Tất cả các thắc mắc của quý vị liên quan đến cuộc nghiên cứu này đã được trả lời đầy đủ. Khi ký tên vào giấy này, quý vị xác nhận rằng quý vị từ 18 tuổi trở lên và đồng ý tham gia cuộc nghiên cứu mà Huaibo Xin vừa giải thích cho quý vị.

Chữ Ký: \_\_\_\_\_ Ngày: \_\_\_\_\_

## APPENDIX B. INTERVIEW GUIDE

### Interview Guide for Refugee Participants

**Project Title:** Assessing Individual, Family, and Community Resilience to a Natural Disaster among Vietnamese Refugees in NC: An Ethnographic Study

**Time of Interview:**

**Date:**

**Place:**

**Interviewer:** Huaibo Xin

**Interviewee:**

**Interviewee's Demographic Information:** Age, Gender, Country of Origin, Employment, Annual Household Income, Years in the U.S.

**Position of Interviewee:**

#### Individual Resilience

1. Could you please introduce yourself to me? How has being a refugee changed you and your life?
2. Have you ever experienced a natural disaster?
  - If yes, what are the natural disasters? How do natural disasters impact people's lives? What kind of natural disaster did you experience? When and Where? How did it/they influence you and your family? How did you react to it/them? How do you think what you learned from your refugee experience could help/helped you to react to it/them?
  - If no, do you know anything about natural disasters?
    - ✚ If yes, how would you describe them? How do natural disasters impact people's lives? How do you think what you have learned from your refugee experience could help you to react to them?
    - ✚ If no, would you like me to show you some pictures? How do natural disasters impact people's lives? How do you think what you have learned from your refugee experience could help you to react to them?
  - If we are assuming a natural disaster (e.g. flood, severe storm, tornado, and hurricane) might happen to you here in Greensboro sometime in the near future, how would you feel about it? How would you survive it?
3. What do you think could be the reasons that influence your reactions to a natural disaster (e.g. flood, severe storm, tornado, and hurricane) that happens here? Would you please explain to me more?
4. In what ways do you usually receive a warning of a severe weather or other important information in Greensboro area? Do you let anyone else know when severe weather is coming? Who and how do you tell?
5. What do you think you will do to help yourself quickly recover from a natural disaster if it happens to you here?

6. Do you think you will need any mental health counseling/service after a natural disaster (e.g. flood, severe storm, tornado, and hurricane) if it happens to you here?
  - If yes, what makes you think so? How will you receive the service?
  - If no, what could be the reasons? If you need to talk about your fears or worries after a natural disaster, what would you do instead?

### **Family Resilience**

1. How many people are there in your family? May I know who they are? Do they all live with you? How often do you see or talk to each other? What is your primary language in your family? In what ways will you get in touch with each other, especially when something urgent happens, you family is not all together, and there are no phones?
2. How would you describe the relationships among your family members? In what ways does your family support each other especially when something urgent/bad happens?
3. How are important decisions usually made in your family? What will you and your family do after a decision is made?
4. How do you think your family would react to a natural disaster (e.g. flood, severe storm, tornado, and hurricane) as a group if it happens here? What makes you think so? What do you think a bad thing like a natural disaster means to your family?
5. What kinds of help do you think your family would need to survive a natural disaster like a flood, tornado, severe storm, hurricane, and an earthquake if any of them happens in Greensboro? How can your family find the help it needs? Do you think this help is always available to your family? What makes you think so?
6. How do you think your family's reaction as a group to a natural disaster (e.g. flood, severe storm, tornado, and hurricane) might influence your reaction to it?
7. Does your family have a plan for what to do in case of an emergency like a natural disaster (e.g. flood, severe storm, tornado, and hurricane)?
  - If yes, what kind of plans do you make?
  - If no, what could be the reasons that you don't have one?

### **Community Resilience**

1. How would you describe Greensboro in general in terms of its physical environment, housing, people, employment, transportation, safety, health services, media, manufacturing...? Compared to the cities or villages you lived before, for instance, places in Vietnam, do you like living in Greensboro?
  - If yes, what makes you like it?
  - If no, what makes you dislike it?
2. Do most people/Vietnamese/Montagnards living in Greensboro often communicate with each other?
  - If yes, in what ways do you usually get in touch with each other?

- If no, what could be the reasons that you do not get in touch with each other?
3. Do you have any leaders or any organizations/support groups led by Vietnamese/Montagnards in Greensboro?
    - If yes, who/what are they?
    - If no, do you think it is a good idea to have leaders or your own organizations/support groups in Greensboro?
      - ✚ If yes, what do you think you could do for it?
      - ✚ If no, what could be the reasons?
  4. How well do you think most people/Vietnamese/Montagnards living in Greensboro know how to survive a serious natural event (e.g. flood, severe storm, tornado, hurricane, and earthquake)? What makes you think so?
  5. Do you, your family, and your neighbors receive any training or information regarding preparing for a natural disaster in Greensboro?
    - If yes, how often and in what ways do you, your family, and your neighbors receive them?
    - If no, how would you and your family like to receive them?
  6. In what ways do you think that most people/Vietnamese/Montagnards living in Greensboro find out an approaching natural disaster such as a snow storm, flood or tornado?
  7. Are there any emergencies/disasters happened to Greensboro before?
    - If yes, what kinds of emergencies/disasters? What did Greensboro do to respond to it/them?
  8. If a natural disaster like a flood, severe storm, tornado, hurricane, and an earthquake happens to Greensboro, what kinds of resources do you think Greensboro has right now, which can be used to survive the disaster and help you all? What kinds of resources can you receive from the city? How do you think you would be supported by this city? If you don't think you would be supported, what could be the reasons?
  9. How do you think Greensboro's response to a natural disaster may influence your response and your family's response to it?
  10. Do you think Greensboro has any emergency plans for how to react to a natural disaster like a flood, severe storm, tornado, hurricane, and an earthquake?
  11. After a natural disaster, based on Greensboro's current situation, do you think Greensboro will be quickly rebuilt in terms of your residential houses, churches, hospitals, schools, transportation systems...? What makes you think so?
  12. Do you think Greensboro can provide you and your family any mental health services after a natural disaster if you and your family need to tell a doctor about the fears and worries?
    - If yes, how can you find and receive them for yourself and your family?
    - If no, what could be the reasons?